TOSHIBA

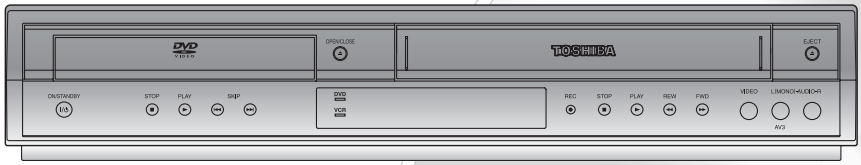
DVD PLAYER & VIDEO CASSETTE RECORDER

SD-24VBSB

OWNER'S MANUAL

VHS PAL Hi-Fi

Before connecting, operating or adjusting this product, please read this instruction booklet carefully and completely.



©2004 Toshiba Corporation
This device does not tape-record copy protected DVD Video Discs.

Safety Precautions

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING: Do not install this equipment in a confined space such as a book case or similar unit.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CLASS 1 LASER PRODUCT
KLASSE 1 LASER PRODUKT
LUOKAN 1 LASER LAITE
KLASS 1 LASER APPARAT
CLASSE 1 PRODUIT LASER

CAUTION:

This Digital Video Disc Player employs a Laser System.
To ensure proper use of this product, please read this owner's manual carefully and retain for future reference, should the unit require maintenance, contact an authorized service location-see service procedure.
Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.
To prevent direct exposure to laser beam, do not try to open the enclosure. Visible laser radiation when open. DO NOT STARE INTO BEAM.

CAUTION: The apparatus shall not be exposed to water, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

CE This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 89/336/EEC, 93/68/EEC and 73/23/EEC.

Notes on copyrights:

It is forbidden by law to copy, broadcast, show, broadcast via cable, play in public, or rent copyright material without permission.
This product features the copy protection function developed by Macrovision. Copy protection signals are recorded on some discs.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

CONSUMERS SHOULD NOTE THAT NOT ALL HIGH DEFINITION TELEVISION SETS ARE FULLY COMPATIBLE WITH THIS PRODUCT AND MAY CAUSE ARTIFACTS TO BE DISPLAYED IN THE PICTURE. IN CASE OF 625 PROGRESSIVE SCAN PICTURE PROBLEMS, IT IS RECOMMENDED THAT THE USER SWITCH THE CONNECTION TO THE 'STANDARD DEFINITION' OUTPUT. IF THERE ARE QUESTIONS REGARDING OUR TV SET COMPATIBILITY WITH THIS MODEL 625p DVD PLAYER, PLEASE CONTACT OUR CUSTOMER SERVICE CENTER.

Features:

- Complete versatility to play DVD, VCDs, audio CDs or VHS Tapes.
- Watch a DVD while recording a TV show to the VCR.
- Remote controls DVD and VCR decks.
- Records from DVD to VHS (unless DVD is copy protected with Macrovision).
- Hi-Fi Stereo VCR.

SERIAL NUMBER: The serial number is found on the back of this unit. This number is unique to this unit and not available to others. You should record requested information here and retain this guide as a permanent record of your purchase.

Model No. _____

Serial No. _____

POWER: This unit operates on a mains supply of 200-240V, 50Hz.

WIRING: This unit is supplied with a BSI 1363 approved 13 amp mains plug, fused at 5 amp. When replacing the fuse always use a 5 amp BS 1362, BSI or ASTA approved type. Never use this plug with the fuse cover omitted. To obtain a replacement fuse cover contact your dealer. If the type of plug supplied is not suitable for the mains sockets in your home, then the plug should be removed and a suitable type fitted. Please refer to the wiring instructions below:

WARNING: A mains plug removed from the mains lead of this DVD player must be destroyed. A mains plug with bared wires is hazardous if inserted in a mains socket.
Do not connect either wire to the earth pin, marked with the letter E or with the earth symbol ⏚ or coloured green or green and yellow.
If any other plug is fitted, use a 5 amp fuse, either in the plug, or at the distribution board.

IMPORTANT: The wires in this mains lead are coloured in accordance with the following codes:
- BLUE: NEUTRAL, BROWN: LIVE - As the colours of the wires in the mains lead of this DVD player may not correspond with the coloured marking identifying the terminals in your plug, proceed as follows: The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

SOME DOS AND DON'TS ON THE SAFE USE OF EQUIPMENT

This equipment has been designed and manufactured to meet international safety standards but, like any electrical equipment, care must be taken if you are to obtain the best results and safety is to be assured. So, please read the points below for your own safety. They are of a general nature, intended to help you with all your electronic consumer products and some points may not apply to the goods you have just purchased.

****

DO read the operating instructions before you attempt to use the equipment.
DO ensure that all electrical connections (including the mains plug, extension leads and inter-connections between the pieces of equipment) are properly made and in accordance with the manufacturer's instructions. Switch off and withdraw the mains plug before making or changing connections.
DO consult your dealer if you are ever in doubt about the installation, operation or safety of your equipment.
DO be careful with glass panels or doors on equipment

****

DON'T remove any fixed cover as this may expose dangerous voltages.
DON'T obstruct the ventilation openings of the equipment with items such as newspapers, tablecloths, curtains, etc. Overheating will cause damage and shorten the life of the equipment.
DON'T allow electrical equipment to be exposed to dripping or splashing, or objects filled with liquids, such as vases, to be placed on the equipment.
DON'T place hot objects or naked flame sources such as lighted candles or nightlights on, or close to equipment. High temperatures can melt plastic and lead to fires.
DON'T use makeshift stands and NEVER fix legs with wood screws - to ensure complete safety always fit the manufacturer's approved stand or legs with the fixings provided according to the instructions.
DON'T use equipment such as personal stereos or radios so that you are distracted from the requirements of traffic safety. It is illegal to watch television whilst driving.
DON'T listen to headphones at high volume, as such use can permanently damage your hearing.
DON'T leave equipment switched on when it is unattended unless it is specifically stated that it is designed for unattended operation or has a stand-by mode. Switch off using the switch on the equipment and make sure that your family know how to do this. Special arrangements may need to be made for infirm or handicapped people.
DON'T continue to operate the equipment if you are in any doubt about it working normally, or if it is damaged in any way -switch off, withdraw the mains plug and consult your dealer.

ABOVE ALL

---NEVER let anyone especially children push anything into holes, slots or any other opening in the case - this could result in a fatal electrical shock;

---NEVER guess or take chances with electrical equipment of any kind
---it is better to be safe than sorry!

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Table of Contents

Introduction

Safety Precautions 2-3
Table of Contents 4
About the symbols for instructions 4
Before Use 5-6
Playable Discs 5
Moisture Condensation 5
Remote Control Operation Range 5
Precautions 6
Notes on Discs 6
About Symbols 6
Selecting the Viewing Source 6
Front Panel 7
Display Window 8
Remote Control 9
Rear Panel 10

Preparation

Connections 11-12
Connecting to a TV 11
Connecting to Optional Equipment 12
Before Operation - VCR part 13-17
Tuning in a video channel on your TV 13
Initial preset 13
Setting the clock Manually 14
To set the colour system 14
To set the RF OUT sound system 14
How to use the main menu 15
Tuning in TV stations Automatically 15
Tuning in TV stations Manually 16
Changing the other of TV stations 17
Deleting TV stations 17
Before Operation - DVD part 18-21
General Explanation 18
On-Screen Display 18
Initial Settings 19-21
- General Operation 19
- Language 19
- Picture 19
- Sound 20
- Others 20
- Parental Control 21

Operation

Operation with tape 22-25
Playing a tape 22
- CM (Commercial Message) Skip 22
- OPR (Optimum Picture Response) 22

One-touch Timer Recording (OTR) 23
Timer recording using On Screen Display . . . 24-25
Operation with DVD and Video CD 26-28
Playing a DVD and Video CD 26
General Features 26
- Moving to another TITLE 26
- Moving to another CHAPTER/TRACK 26
- Search 26
- Still Picture and Frame-by-Frame Playback 26
- Slow Motion 27
- Random 27
- Repeat 27
- Repeat A-B 27
- Time Search 27
- 3D Surround 27
- Screen Saver 27
- Zoom 28
- Marker Search 28
- One Touch Replay 28

Special DVD Features 28
- Title Menu 28
- Disc Menu 28
- Camera Angle 28
- Changing the Audio Language 28
- Changing the Audio Channel 28
- Subtitles 28

Operation with Audio CD and MP3 Disc 29-30
Playing an Audio CD and MP3 Disc 29
- Notes on MP3 Recordings 29
- Pause 30
- Moving to another Track 30
- Repeat Track/All/Off 30
- Search 30
- Random 30
- Repeat A-B 30
- 3D Surround 30
- Changing the Audio Channel 30

Operation with JPEG Disc 31
Viewing a JPEG disc 31
- Moving to another File 31
- Still Picture 31
- To flip the picture 31
- To rotate Picture 31
- Notes on JPEG Recordings 31

Programmed Playback 32
Programmed Playback with Audio CD and MP3 Discs 32
Programmed Playback with Video CD 32
- Repeat Programmed Tracks 32
- Erasing a Track from Program list 32
- Erasing the Complete Program list 32

Additional Operation with tape 33-35
Hi-Fi Stereo Sound System (NIC) 33
Blank Search 33
On Screen Display(F.OSD) 33
Tape Counter Memory Stop 33
Video Doctor (Self-Diagnosis) 34
To set the decoder 34
Wide Screen Compatibility 16:9 34
Copying from DVD to VCR 35
Recording from another video recorder 35

Reference

Troubleshooting 36-37
Language Code List 38
Country/Area Code list 39
Specification 40

About the symbols for instructions

⚠ Indicates hazards likely to cause harm to the unit itself or other material damage.

Indicates special operating features of this unit.

Indicates tips and hints for making the task easier.

Before Use

Playable Discs

DVD VIDEO	DVD (8 cm / 12 cm disc)
COMPACT disc DIGITAL VIDEO	Video CD (VCD) (8 cm / 12 cm disc)
COMPACT disc DIGITAL AUDIO	Audio CD (8 cm / 12 cm disc)

In addition, this unit can play SVCD, CD-R/RW and DVD-R/RW that contains audio titles, MP3 or JPEG files.

Notes

- Depending on the conditions of the recording equipment or the CD-R/RW (or DVD-R/±RW) disc itself, some CD-R/RW (or DVD-R/±RW) discs cannot be played on the unit.
- Do not attach any seal or label to either side (the labeled side or the recorded side) of a disc.
- Do not use irregular shaped CDs (e.g., heart-shaped or octagonal). It may result in malfunctions.

Notes on DVDs and Video CDs

Some playback operations of DVDs and Video CDs may be intentionally fixed by software manufacturers. As this unit plays DVDs and Video CDs according to disc content designed by the software manufacturer, some playback features of the unit may not be available, or other functions may be added.
Refer also to the instructions applied with the DVDs and Video CDs. Some DVDs made for business purposes may not be played on the unit.

Regional code of the DVD player and DVDs

This DVD player is designed and manufactured for playback of region "2" encoded DVD software. The region code on the labels of some DVD discs indicates which type of player can play those discs. This unit can play only DVD discs labeled "2" or "ALL". If you try to play any other discs, the message "Check Regional Code" will appear on the TV screen. Some DVD discs may not have a region code label even though their playback is prohibited by area limits.

Disc-related terms

Title (DVD only)
The main film content or accompanying feature content or additional feature content, or music album. Each title is assigned a title reference number enabling you to locate it easily.

Chapter (DVD only)
Sections of a picture or a musical piece that are smaller than titles. A title is composed of one or several chapters. Each chapter is assigned a chapter number, enable you to locate the chapter you want. Depending on the disc, chapters may not be recorded.

Track (Video CD and audio CD only)
Sections of a picture or a musical piece on a video CD or an audio CD. Each track is assigned a track number, enabling you to locate the track you want.

Scene
On a video CD with PBC (Playback control) functions, moving pictures and still pictures are divided into sections called "Scenes". Each scene is displayed in the menu screen and assigned a scene number, enabling you to locate the scene you want.
A scene is composed of one or several tracks.

Types of video CDs

There are two types of video CDs:

Video CDs equipped with PBC (Version 2.0)
PBC (Playback control) functions allow you to interact with the system via menus, search functions, or other typical computer-like operations. Moreover, still pictures of high resolution can be played if they are included in the disc.

Video CDs not equipped with PBC (Version 1.1)
Operated in the same way as audio CDs, these discs allow playback of video pictures as well as sound, but they are not equipped with PBC.

Moisture Condensation

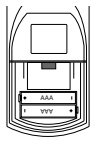
Never operate the DVD+VCR immediately after moving it from a cold location to a warm location. Leave it for two or three hours without operating it. If you use the DVD+VCR in such a situation, it may damage discs/tapes and internal parts.

Remote Control Operation Range

Point the remote control at the remote sensor and press the buttons.

- **Distance:** About 23 ft (7 m) from the front of the remote sensor
- **Angle:** About 30° in each direction of the front of the remote sensor

Remote control battery installation



Detach the battery cover on the rear of the remote control, and insert two (R03/AAA) size batteries with ⊕ and ⊖ aligned correctly.

Caution

Do not mix old and new batteries. Never mix different types of batteries (standard, alkaline, etc.).

Precautions

Handling the unit

When shipping the unit
The original shipping carton and packing materials come in handy. For maximum protection, re-pack the unit as it was originally packed at the factory.

When setting the unit
The picture and sound of a nearby TV or radio may be distorted during playback. In this case, position the unit away from the TV or radio, or turn off the unit after removing the disc.

To keep the surface clean
Do not use volatile liquids, such as insecticide spray, near the unit. Do not leave rubber of plastic products in contact with the unit for a long period of time. They will leave marks on the surface.

Cleaning the unit

To clean the cabinet
Use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth lightly moistened with a mild detergent solution. Do not use strong solvents, such as alcohol, benzine, or thinner, as these might damage the surface of the unit.

To obtain a clear picture
The DVD player is a high-tech, precision device. If the optical pick-up lens and disc drive parts are dirty or worn down, the picture quality will be poor.
Regular inspection and maintenance are recommended after every 1,000 hours of use. (This depends on the operating environment.)
For details, please contact your nearest dealer.

Notes on Discs

Handling discs

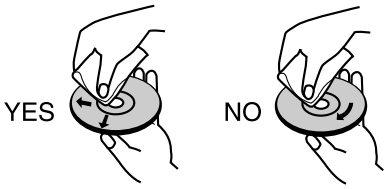
Do not touch the playback side of the disc.
Hold the disc by the edges so that fingerprints will not get on the surface.
Do not stick paper or tape on the disc.

Storing discs

After playing, store the disc in its case.
Do not expose the disc to direct sunlight or sources of heat, or leave it in a parked car exposed to direct sunlight, as there may be a considerable temperature increase inside the car.

Cleaning discs

Fingerprints and dust on the disc can cause poor picture quality and sound distortion. Before playing, clean the disc with a clean cloth. Wipe the disc from the center out.



Do not use strong solvents such as alcohol, benzine, thinner, commercially available cleaners, or anti-static spray intended for older vinyl records.

About Symbols

About the ⃠ symbol display

" ⃠ " may appear on the TV screen during operation. This icon means the function explained in this owner's manual is not permitted by the DVD+VCR or is not available on that specific DVD video disc.

About the disc symbols for instructions

A section whose title has one of the following symbol is applicable only to the disc represented by the symbol.

- **DVD** DVD
- **VCD2.0** Video CDs with the PBC (playback control) function.
- **VCD1.1** Video CDs without the PBC (playback control) function.
- **CD** Audio CDs.
- **MP3** MP3 disc.
- **JPEG** JPEG disc.

Selecting the Viewing Source

You must select one of your output sources (DVD or VCR) to view on the TV screen.

- **If you want to view DVD deck output source:**
Press DVD until DVD indicator in the display window lights and output source of DVD deck is viewed on the TV screen.
- **If you want to view VCR deck output source:**
Press VCR until VCR indicator in the display window lights and output source of VCR deck is viewed on the TV screen.

Notes

- If you insert a disc while the DVD+VCR is in the VCR mode, the DVD+VCR will switch to DVD mode automatically.
- If you insert a cassette tape without prevention tab while the DVD+VCR is in the DVD mode, the DVD+VCR will switch to VCR mode automatically.

Front Panel

OPEN/CLOSE
Opens or closes the disc tray.

Display window
Shows the current status of the DVD+VCR.

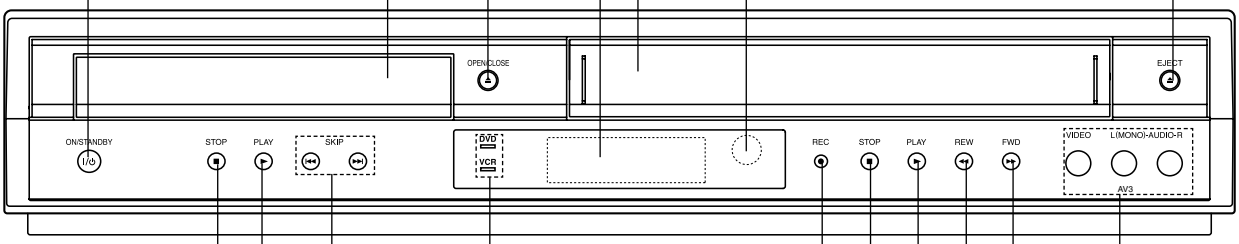
Disc Tray (DVD deck)
Insert a disc here.

Cassette Compartment (VCR deck)
Insert a video cassette here.

Remote Sensor
Point the DVD+VCR remote control here.

ON/STANBY
Switches the DVD+VCR ON and OFF.

EJECT
Ejects the tape in the VCR deck.



DVD/VCR indicator
Indicates the active deck.

STOP (■)
Stops playback of disc.

PLAY (▶)
Starts playback of a disc in the DVD deck.

REC
To record normally or to activate One-touch Timer Recording by repeated presses.

SKIP (I◀◀ / ▶▶I)
- Skip to beginning of current chapter or track, press twice in quick successions to go to previous chapter or track.
- Skip to next chapter or track.

Press and hold button for about two seconds to search backward or forward.

STOP (■)
Stops playback of tape.

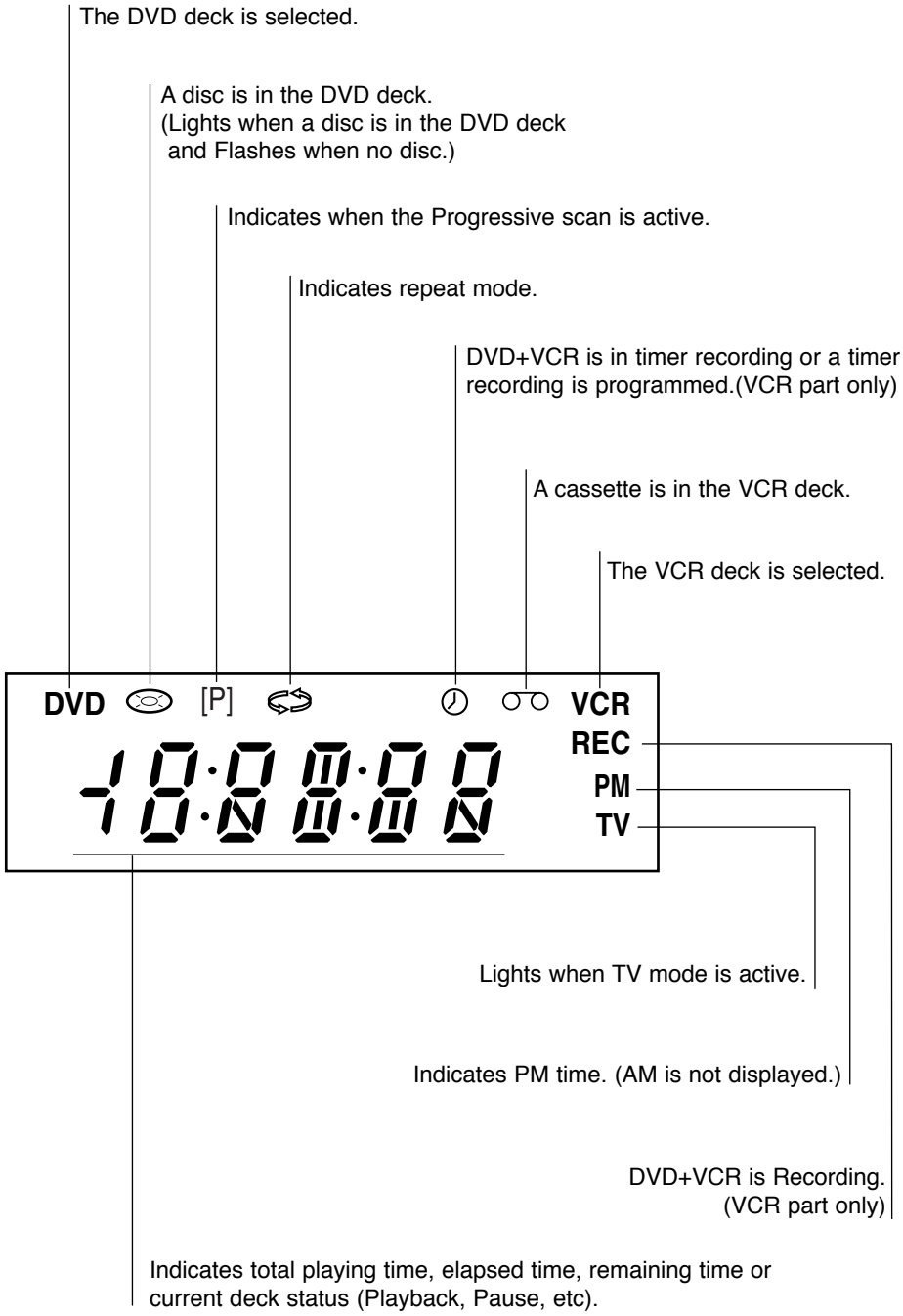
PLAY (▶)
Starts playback of a tape in the VCR deck.

REW
Rewinds the tape during the STOP mode or for fast reverse picture search.

FWD
Advances the tape during the STOP mode or for fast forward picture search.

AV3 (VIDEO IN/AUDIO IN (Left/Right))
Connect to the audio/video output of an external source (Audio system, TV/Monitor, Another VCR).

Display Window


The DVD deck is selected.
A disc is in the DVD deck.
(Lights when a disc is in the DVD deck
and Flashes when no disc.)
Indicates when the Progressive scan is active.
Indicates repeat mode.
DVD+VCR is in timer recording or a timer
recording is programmed.(VCR part only)
A cassette is in the VCR deck.
The VCR deck is selected.
DVD
[P]
VCR
REC
PM
TV
Lights when TV mode is active.
Indicates PM time. (AM is not displayed.)
DVD+VCR is Recording.
(VCR part only)
Indicates total playing time, elapsed time, remaining time or
current deck status (Playback, Pause, etc).

Remote Control

DVD/VCR select button
Select the output source (DVD or VCR) to view on the TV screen.

0-9 numerical buttons
Selects numbered options in a menu.

INPUT SELECT
To select the VCR deck's source (Tuner, AV1, AV2 or AV3).

ANGLE •
Selects a DVD camera angle if available.

SUBTITLE •
Selects a subtitle language (DVD).

AUDIO •
Selects an audio language (DVD) or an audio channel (CD).

INSTANT REPLAY •
Replays through 10 seconds of playback.

PLAY •
Starts playback.

REW •
Rewinds the tape during the STOP mode or for fast reverse picture search. Press and hold button for about two seconds to search backward. (For DVD only)

FWD •
Advances the tape during the STOP mode or for fast forward picture search. Press and hold button for about two seconds to search forward.(For DVD only)

SLOW •
Forward slow playback.

STOP •
Stops playback.

PAUSE/STILL, PAUSE/STEP •
Pause playback or recording. Press repeatedly for frame-by-frame playback during pause.

SKIP I◄◄ •
Skip to beginning of current chapter or track, press twice in quick successions to go to previous chapter or track.

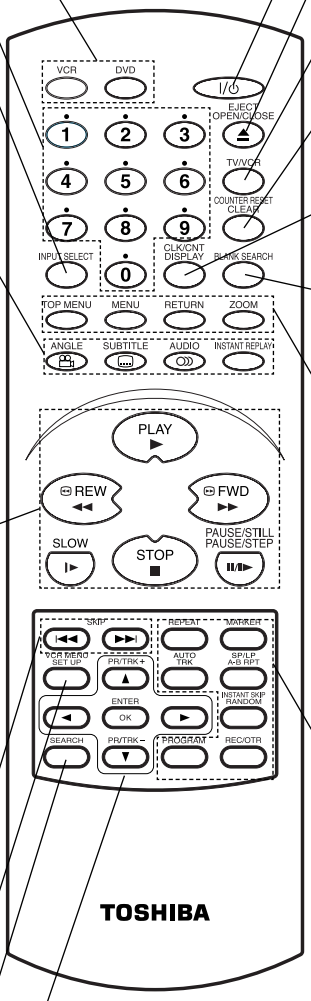
SKIP ►►I •
Skip to next chapter or track.

SET UP, VCR MENU
Accesses or removes DVD setup menu and VCR menu.

SEARCH
Displays MARKER SEARCH menu.

◄/►/▲/▼ (left/right/up/down) •
- Selects an option in the menu
- **PR/TRK** (+/-): Selects channel of VCR. Adjusts manually the tape's picture onscreen.

ENTER/OK •
- Acknowledges menu selection.
- Displays functions on the TV screen.



POWER
Switches DVD+VCR ON and OFF.

EJECT, OPEN/CLOSE
- Opens and closes the disc tray.
- Ejects the tape in the VCR deck.

TV/VCR
To view channels selected by the VCR tuner or by the TV tuner.

COUNTER RESET, CLEAR
- Resets tape counter to M 0:00:00
- Removes a track number on the program menu or a mark on the MARKER SEARCH menu.

CLK/CNT, DISPLAY
Accesses On-Screen display. Switches among the clock, tape counter and tape remaining modes on the display.

BLANK SEARCH
Finds end points of recording.

• TOP MENU
Displays the disc's Title menu, if available.

• MENU
Accesses menu on a DVD disc.

• RETURN
Removes the setup menu.

• ZOOM
Enlarges video image.

• REPEAT
Repeat chapter, track, title, all.

• A-B REPEAT, SP/LP
- Repeats sequence.
- Selects recording speed of the tape.

• MARKER
Marks any point during playback.

• RANDOM, INSTANT SKIP
- Plays tracks in random order.
- Fast forwards picture search through 30 seconds of recording.

• REC/OTR
Records normally or activates One-touch Timer Recording with repeated presses.

• AUTO TRK
Adjusts automatically the tape's picture onscreen.

• PROGRAM
Accesses or removes Program menu.

Note
This remote control uses the same buttons for VCR and DVD functions (ex. PLAY).
When using a VCR, first press the VCR button.
When using a DVD, first press the DVD button.

Rear Panel

AERIAL
Connect the aerial using this jack.

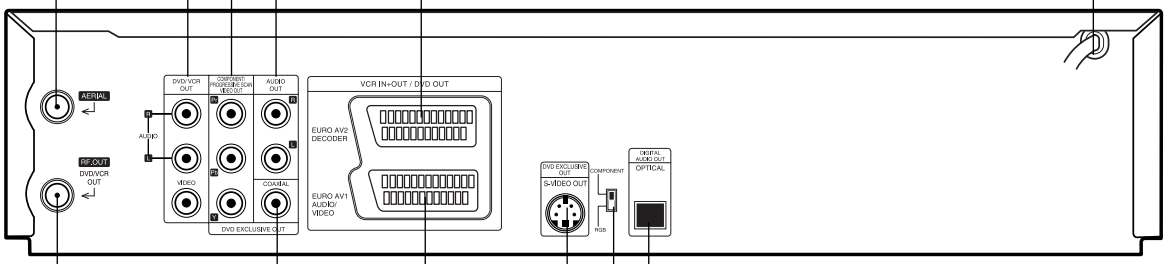
DVD/VCR OUT (VIDEO/AUDIO (Left/Right))
Connect to a TV with video and audio inputs.

COMPONENT/PROGRESSIVE SCAN VIDEO OUT (Y Pb Pr)
(DVD EXCLUSIVE OUT)
Connect to a TV With Y Pb Pr inputs.

AUDIO OUT (Left/Right) (DVD EXCLUSIVE OUT)
Connect to an amplifier, receiver or stereo system.

EURO AV2 DECODER
Connect to pay-TV decoder, Set Top Box or another video recorder.

AC Power Cord
Connect to a power source.



OPTICAL (DVD EXCLUSIVE OUT)
(Digital audio out jack)
Connect to digital (optical) audio equipment.

VIDEO OUTPUT Switch
Select either **COMPONENT** or **RGB** depending on how you connect this unit to the TV.

S-VIDEO OUT (DVD EXCLUSIVE OUT)
Connect to a TV With S-Video input.

EURO AV1 AUDIO/VIDEO (VCR IN+OUT/DVD OUT)
Connect to your TV set or another video recorder.

COAXIAL (DVD EXCLUSIVE OUT)
(Digital audio out jack)
Connect to digital (coaxial) audio equipment.

RF.OUT (DVD/VCR OUT)
Connect to your TV using this jack.

⚠

Do not touch the inner pins of the jacks on the rear panel.
Electrostatic discharge may cause permanent damage to the unit.

Connections

Tips

- Depending on your TV and other equipment you wish to connect, there are various ways you could connect the unit.
- Please refer to the manuals of your TV, Stereo System or other devices as necessary to make the best connections.
- For better sound reproduction, connect this unit's AUDIO OUT jacks to the audio in jacks of your amplifier, receiver, stereo or audio/video equipment. See "Connecting to Optional Equipment" on page 12.

Caution

– Make sure this unit is connected directly to the TV. Set the TV to the correct video input channel.
– Do not connect this unit's AUDIO OUT jack to the phono in jack (record deck) of your audio system.

Connecting to a TV

- Make one of the following connections, depending on the capabilities of your existing equipment.
- When using the SCART's RGB signal, set the video output switch to **RGB**. When using the **COMPONENT/PROGRESSIVE SCAN VIDEO OUT** jacks, set the video output switch to **COMPONENT**.
- RGB signal is only exclusive for DVD playback.

Basic connection (AV)

1 Connect the **EURO AV1 AUDIO/VIDEO** on the rear panel of this unit to the SCART input socket on the TV using a SCART lead.
For TV without SCART, connect the yellow VIDEO OUT jack and DVD/VCR AUDIO OUT jacks of this unit to the TV.

2 Some TV broadcasters transmit encoded television signals which you can only see with a purchased or rented decoder. You can connect such a decoder (descrambler) to this unit.

Basic connection (RF)

1 Connect the RF antenna cable from your indoor/outdoor antenna to **AERIAL** jack on the rear panel of this unit.

2 Connect the supplied RF antenna cable from the **RF.OUT (DVD/VCR OUT)** jack on the rear panel of this unit to your television's Antenna Input.

S-Video connection

1 Connect the **S-VIDEO OUT** jack on this unit to the S-Video in jack on the TV using the S-Video cable (not supplied).

2 Connect the Left and Right **AUDIO OUT (DVD EXCLUSIVE OUT)** jacks of this unit to the audio left/right in jacks on the TV using the audio cables.

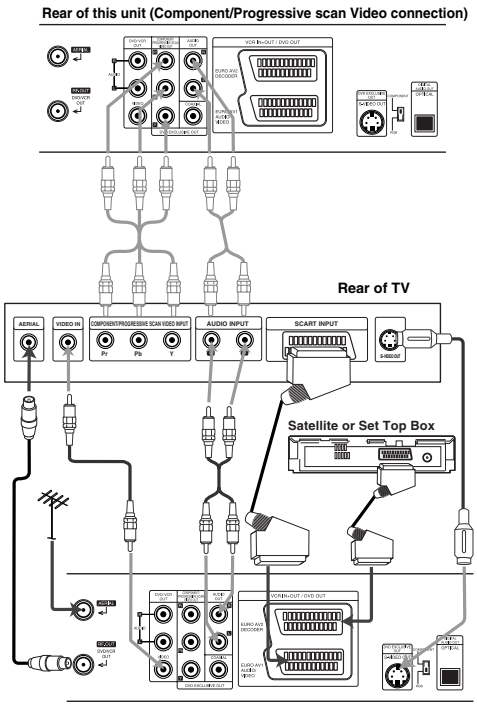
Component (Color Stream®) / Progressive Scan (ColorStream® pro) Video connection (DVD EXCLUSIVE OUT)

1 Connect the **COMPONENT/PROGRESSIVE SCAN VIDEO OUT/(DVD EXCLUSIVE OUT)** jacks on the DVD+VCR to the corresponding in jacks on the TV using an Y Pb Pr cable (not supplied).

2 Connect the Left and Right **AUDIO OUT (DVD EXCLUSIVE OUT)** jacks of the DVD+VCR to the audio left/right in jacks on the TV using the audio cables.

Notes

- If your television is a high-definition or "digital ready" television, you may take advantage of the DVD+VCR's progressive scan output for the highest video resolution possible.
- Set the Progressive Scan to "On" on the setup menu for progressive scan signal, see page 19.
- When you use Component Video signal (interlace mode), set the Progressive Scan to "Off" on the setup menu.
- If you set Progressive Scan to ON in error, you must reset the DVD+VCR. First, remove the disc in the DVD+VCR. Next, press STOP (■) and hold it for five seconds before releasing it. The video output will be restored to the standard setting, and a picture will once again be visible on a conventional analog TV or monitor.
- Progressive scan on does not work with the analog video connections (yellow VIDEO OUT jack or S-VIDEO OUT jack).
- If the TV has an S-video input, connect the DVD player with the S-video cable. When using an S-video cable, do not connect the yellow video cable.


Rear of this unit (Component/Progressive scan Video connection)
Rear of TV
Satellite or Set Top Box
Rear of this unit (Basic connection)

Connecting to Optional Equipment

Connecting to an amplifier equipped with two channel analog stereo or Dolby Surround.

Connect the Left and Right **DVD/VCR AUDIO OUT** or **AUDIO OUT (DVD EXCLUSIVE OUT)** jacks on this unit to the audio left and right in jacks on your amplifier, receiver or stereo system, using the audio cables.

Connecting to an amplifier equipped with two channel digital stereo (PCM) or to an Audio/ Video receiver equipped with a multi-channel decoder (Dolby Digital™, MPEG 2 or DTS)

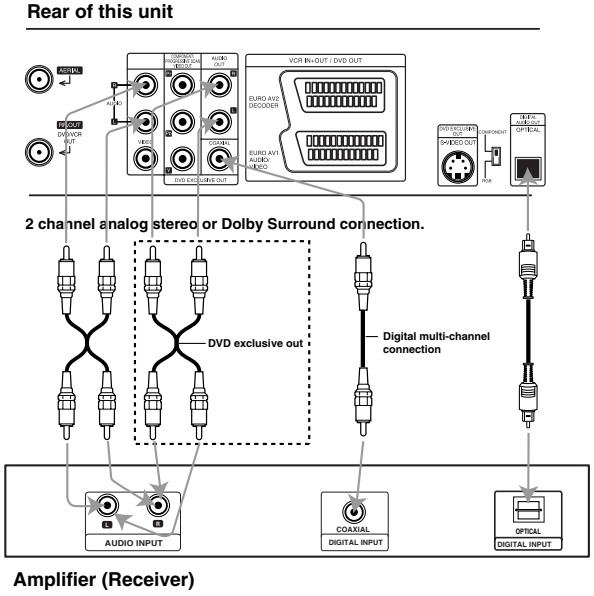
1 Connect one of this unit's DIGITAL AUDIO OUT jack (**COAXIAL** or **OPTICAL**) to the corresponding in jack on your amplifier. Use an optional digital (optical or coaxial) audio cable.

2 You will need to activate this unit's digital output. (See "Digital Audio Output" on page 20).

Digital Multi-channel sound

A digital multi-channel connection provides the best sound quality. For this you need a multi-channel Audio/Video receiver that supports one or more of the audio formats supported by your unit (MPEG 2, Dolby Digital and DTS). Check the receiver manual and the logos on the front of the receiver.

Warning:
Due to the DTS Licensing agreement, the digital output will be in DTS digital out when DTS audio stream is selected.



Notes

- If the audio format of the digital output does not match the capabilities of your receiver, the receiver will produce a strong, distorted sound or no sound at all.
- Six Channel Digital Surround Sound via digital connection can only be obtained if your receiver is equipped with a Digital Multi-channel decoder.
- To see the audio format of the current DVD in the On-Screen Display, press **AUDIO**.

Tuning in a video channel on your TV

Notes

- The output frequency of this video recorder (VCR) is set at UHF channel 36. If channel 36 is already used by another TV station, or if the picture is distorted, you can change the transmitter channel of your VCR. Stages 5 ~ 8 will show you how to change the output frequency of your VCR.
- Your TV receives signals from the video recorder (VCR) like another TV station. You have to select a channel number on your TV and tune it in so that you may watch video tapes. If you have used a **SCART** then your TV should already have a dedicated video channel built into it, usually called **AV**.

1 Make sure that you have correctly installed your VCR as described earlier in this book.
Press I/⏻ to turn on your DVD+VCR.
Turn on your TV.

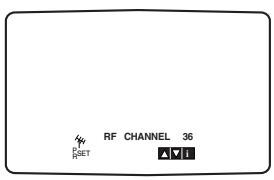
2 Insert a pre-recorded video tape into your VCR and press **PLAY** ► on the remote control.
Select a TV channel number on which you wish to watch video's.
Don't worry if you don't have a video-tape to play at this stage! If you switch your VCR on and continue stages **3 ~ 4**, instead of seeing video playback tune your TV until you see a bright blue screen.

3 Tune this channel until the video picture is sharp and the sound is clear.
If you have used a **SCART** or **AUDIO** and **VIDEO** cables you will not have to tune your TV, simply select the AV channel. The **AV** channel is already pre-tuned for optimum video playback on your TV.

4 Store this channel on your TV.
You will need to look at the TV instruction book if you do not know how to do this.

5 **Only carry out stages 5 ~ 8 if you cannot obtain clear video playback as described in stages 1 ~ 4.**
Select a TV channel number on which you wish to watch video's.
Make sure that your VCR is in standby pressing I/⏻ on the remote control (only the clock will be displayed).

6 Press **REW** ◄◄ or **FWD** ►► on the front of your DVD+VCR for more than 4 seconds.
RF36 will appear in the display window.
The following picture will be displayed on the TV screen.



7 Use **CHANNEL** (▲/▼) to select another video channel. You may select any channel number between 22 and 68.
You can also set it to "OFF" if there is any interference when your TV is connected to the VCR with a SCART lead.

8 Select a TV channel number on which you wish to watch video's.
Press **ON/STANDBY** I/⏻ on the front of your DVD+VCR when you have finished.
Tune this channel so that a bright blue screen appears.
Store this channel on your TV.

Notes

Make sure that you have correctly installed your DVD+VCR and successfully tuned in a dedicated video channel on your TV. If you do not tune in a dedicated video channel on your TV you will be unable to view and record video tapes!

Initial preset

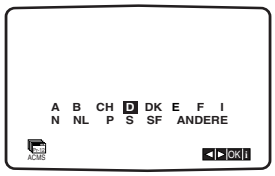
For the following steps we do assume that you have just connected your video recorder for the very first time. In this case the video recorder is on after mains connection. You should not touch any buttons yet. On the connected TV you will now see.

Note

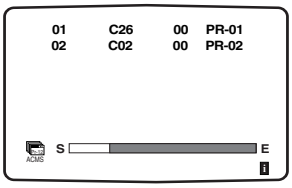
If this menu does not appear, your video recorder was programmed already.

1 Select the country according to your area with ◄ and ►.

"A": Austria, "B": Belgium, "CH": Switzerland, "D": Germany, "DK": Denmark, "E": Spain, "F": France, "I": Italy, "N": Norway, "NL": Netherlands, "P": Portugal, "S": Sweden, "SF": Finland, "ANDERE": Others



2 Press **ENTER/OK** to start the automatic storing of the channels of the TV stations in your area.

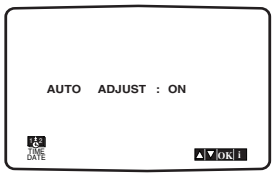


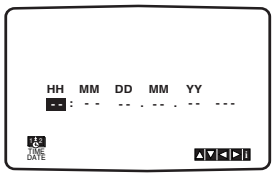
3 The **TV STATION TABLE** will appear when tuning is completed.
Press **VCR MENU** to save your settings.

Setting the clock Manually

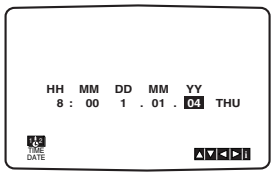
The clock in your DVD+VCR controls time and date settings for your DVD+VCR.
The clock is set automatically during **ACMS** (Automatic Channel Memory System) when your DVD+VCR detects a channel that broadcasts a Teletext signal. If the broadcast signal is weak the clock will not be set and will require setting manually.

1 Press **VCR MENU**.
Press ◄ or ► to select **TIME DATE**.
Press **ENTER/OK**.
The auto adjust mode can be set to "OFF" by pressing ▲ or ▼ if you want to set the time manually.
Press **ENTER/OK**.





2 Use the **numbered buttons** on the remote control to alter the **HOURS, MINUTES, DAY, MONTH** and **YEAR**.
Please note your DVD+VCR uses a 24 hour clock. e.g. 1pm will be displayed as 13:00.
The day of the week will appear automatically when you enter the year.



3 If you make a mistake press ◄ or ► and enter the correct details.

4 Press **VCR MENU** to return to a TV picture.

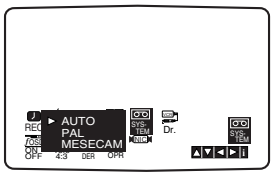
To set the colour system

1 Press **VCR MENU**.

2 The main menu will appear on the TV screen.

3 Press ◄ or ► to select the **SYSTEM** and press **ENTER/OK**.

4 Press ▲ or ▼ to select according to the **COLOUR** system used.



5 Press **VCR MENU** to remove the menus from the TV screen.

To set the RF OUT sound system

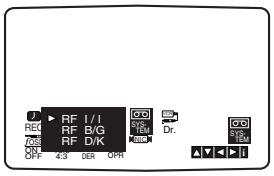
1 Press **VCR MENU**.

2 The main menu will appear on the TV screen.

3 Press ◄ or ► to select the **SYSTEM** and press **ENTER/OK**.

4 Press ▲ or ▼ to select according to the **COLOUR** system used.

5 Press ► to select the RF Out sound system compatible to your TV.



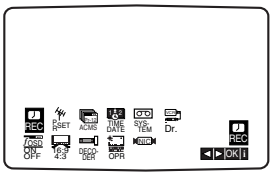
6 Press **VCR MENU** to remove the menus from the TV screen.

How to use the main menu

This DVD+VCR can easily be programmed by using the menus displayed on screen.
The menus are controlled from the Remote Control Handset.

1 Switch on your TV set and video recorder by pressing the I/⏻ button.

2 Press **VCR MENU** button.
The main menu will appear on the TV screen.



- **REC -** Timer recording setting (see p. 24).
- **PR SET -** Manual tuning setting (see p. 16).
- **ACMS -** ACMS (Automatic Channel Memory System) (see p. 15).
- **TIME DATE -** Date & clock setting (see p. 14).
- **SYSTEM -** To set the Colour TV System (see p. 14).
- **Dr. -** To check a problem with your VCR (see p. 34).
- **F.OSD ON/OFF -** To display the operational mode of your VCR (see p. 33).
- **16:9/4:3 -** To select the aspect ratio of your TV (see p. 34).
- **DECODER -** To use a pay-TV decoder (or Satellite) with your VCR (see p. 34).
- **OPR -** To improve the playback picture (see p. 22).
- **NIC -** To activate or deactivate the NICAM digital sound (see p. 33).

3 Press ◄ and ► to select the desired menu.
Press **ENTER/OK** and use ▲ or ▼ to select.

4 Press **VCR MENU** to return to a TV picture.

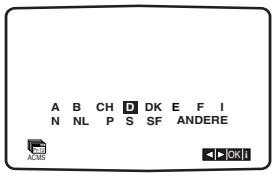
Tuning in TV Stations Automatically

If the TV broadcast signal is weak your DVD+VCR may not detect the necessary information and will not be able to store them correctly. To overcome this problem please turn to the MANUAL TUNING section on page 16.

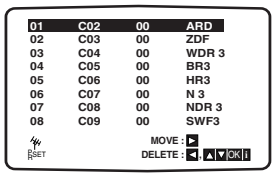
1 Press I/⏻ to turn on your DVD+VCR.

2 Press **VCR MENU** button.
The main menu will appear on the TV screen.
Press ◄ or ► to select the **ACMS**.
Press **ENTER/OK**.

3 Press ◄ or ► to select **COUNTRY**.
(**A:A**ustria, **B:B**elgium, **CH:S**witzerland, **D:G**ermany, **DK:D**enmark, E**:S**pain, **F:F**rance, **I:I**taly, **N:N**orway, **NL:N**etherlands, **P:P**ortugal, **S:S**weden, **SF:F**inland, Others)
Press **ENTER/OK** again to start the automatic tuning process.



4 The **TV STATION TABLE** will appear when tuning is completed.
Press **VCR MENU** to save your settings.



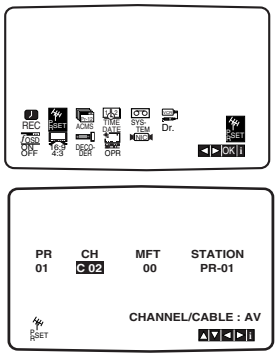
Notes

- The DVD+VCR's clock will be set automatically when automatic tuning has finished. If the clock is wrong please see "Setting the clock Manually" on page 14.
- Please note currently only a limited number of TV companies transmit the **Programme Delivery Control (PDC)** signal which enables your DVD+VCR to successfully identify and store them. If your DVD+VCR has difficulty in identifying a TV station please turn the page to find out how to manually tune in and name a TV station. While automatic tuning is taking place the time and date will set automatically. If - - :- - appears in the DVD+VCR display it means that the broadcast signal is weak and the clock was not set. Please turn to **CLOCK SET** section of this book on page 14.

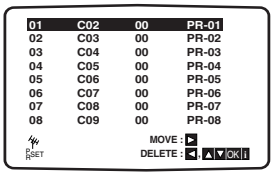
Tuning in TV Stations Manually

In certain areas of the country broadcast signals may be too weak for your VCR's automatic tuning process to find or assign TV stations correctly. You must tune in these weaker broadcast stations manually in order for your VCR to store them.

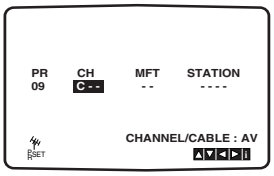
1 Press **VCR MENU**.
The main menu will appear on the TV screen.
Press ◄ or ► to select the **PR SET**.
Press **ENTER/OK**.



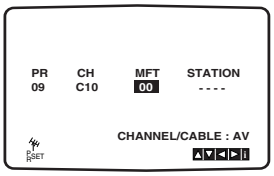
2 Press **VCR MENU**.
The station table will appear.
Press ▲ or ▼ to select the programme number that you want to tune (for example, PR 09).



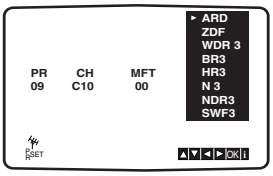
3 Press **ENTER/OK**.
Press **INPUT SELECT** to select **C** (Standard stations) or **S** (Cable stations):
C02 - C69, S01 - S41.
Enter the channel number of station that you want to tune with **the numbered buttons** or use ▲ or ▼ to find the required station.



4 Searching will stop when it locates a stations.
Press ► to select **MFT.**
Control the fine tuning of the station by using ▲ or ▼.

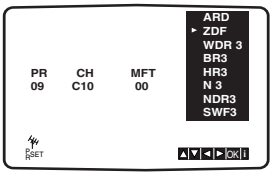


5 Press ► to select **STATION** so that you may name your TV station.
Press **ENTER/OK**.
The TV station name list will appear.

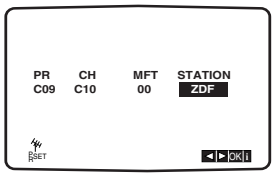


6 Use ▲ or ▼ to select a station name from the list.
Press **ENTER/OK** to select it.

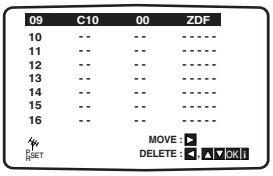
If your station name isn't on the list do not press ENTER/OK, but go to stage 7.



7 You can change a TV station name manually rather than using the "standard" names.
Press ►.
Use ▲ or ▼ to select **letters** and **numbers** for the new station name.
Use ◄ or ► to move back and forth between characters.
Press **ENTER/OK**.



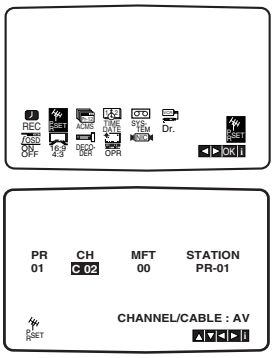
8 Press **VCR MENU**, confirm the station placement.
Press **VCR MENU** again.
Your new TV station has now been tuned into your VCR.
If you wish to manually tune other stations repeat stages **1 - 8**.


09 C10 00 ZDF
10 - - - - - - -

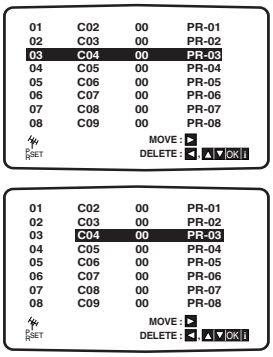
Changing the order of TV Stations

After tuning TV stations into your VCR you may wish to change the order in which they are stored without having to retune them again. The instructions given on this page will show you how you can simply move them into your desired order.

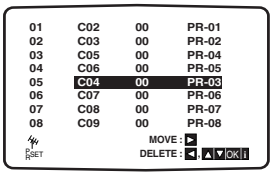
1 Press **VCR MENU**.
The main menu will appear on the TV screen.
Press ◄ or ► to select the **PR SET**.
Press **ENTER/OK**.



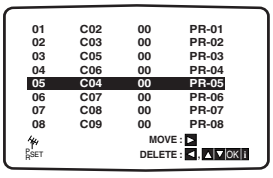
2 Press **VCR MENU**.
Press ▲ or ▼ to select the **programme number** you want to move (for example, PR-03).
Press ►.



3 Press ▲ or ▼ to select the **programme number** you want to move to (for example, PR-05).



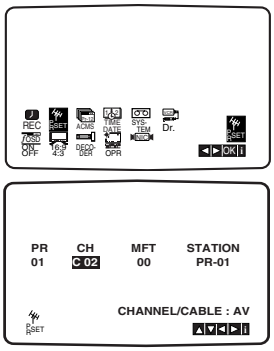
4 Press **ENTER/OK**.
The selected **programme** will be moved to **the new programme number**.
If you wish to move other TV stations repeat stages 1 - 4.
Press **VCR MENU** to remove the menus from the TV screen.



Deleting TV Stations

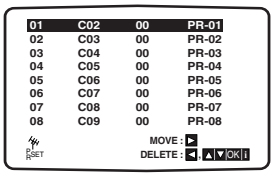
After tuning TV stations into your VCR you may wish to delete a station.
The instructions given on this page will show you how you can easily delete any unwanted TV stations.

1 Press **VCR MENU**.
The main menu will appear on the TV screen.
Use ◄ or ► to select the **PR SET**.
Press **ENTER/OK**.

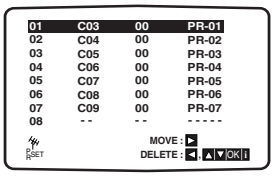


2 Press **VCR MENU**.

3 Press ▲ or ▼ to select the **programme number** you want to delete. (for example, PR-01)



4 Press ◄.
After a short while, the selected station will be deleted.
If you wish to delete other TV stations repeat stages **3 - 4**.



5 Press **VCR MENU** to remove the menus from the TV screen.

How to select Stored TV stations:

Stored TV stations can be selected in either of two ways.
Use **PR/TRK +** or **-** to select different stations that are tuned into your DVD+VCR.
You may also directly select stations using the **numbered buttons** on the remote control.

⚠ **Caution:**
Before using the remote control, press the DVD button to select the device to be operated.

General Explanation

This manual gives the basic instructions for operating the DVD+VCR Player. Some DVDs require specific operation or allow only limited operation during playback. When this occurs, the symbol ⃠ appears on the TV screen, indicating that the operation is not permitted by the DVD+VCR Player or is not available on the disc.

On-Screen Display

The general playback status can be displayed on the TV screen. Some options can be changed on the menu.

On-screen display operation

1 **Press DISPLAY during playback.**

2 **Use ▲/▼ to select an item.**
The selected option will be highlighted.

3 **Use ◄/► to change the setting of an item.**
The number buttons can also be used for setting numbers (e.g., title number). For some functions, press **ENTER/OK** to execute the setting.

Temporary Feedback Field Icons

- TITLE — Repeat Title
- CHAPT — Repeat Chapter
- TRACK — Repeat Track (non-PBC Video CDs and Audio CD only)
- ALL — Repeat Disc (non-PBC Video CDs and Audio CD only)
- A B — Repeat A-B
- OFF — Repeat Off
- II■ — Resume play from this point
- ⃠ — Action prohibited or not available

Notes
- Some discs may not provide all of the features on the on-screen display example shown below.
- If no button is pressed for 10 seconds, the on-screen display disappears.

DVD

Options		Function (Use ▲/▼ to select desired option)	Selection Method
Title Number	1/3	**Shows the current title number and total number of titles, and** skips to the desired title number.	◄/►, or Numeric, ENTER/OK
Chapter Number	1/12	**Shows the current chapter number and total number of chapters, and** skips to the desired chapter number.	◄/►, or Numeric, ENTER/OK
Time search	-:--:--	**Shows the elapsed playing time, and** searches the point by the elapsed time directly.	Numeric, ENTER/OK
Audio language and Digital Audio Output mode	1 ENG DD 5.1 CH	**Shows the current audio soundtrack language, encoding method, and channel number, and** changes the setting.	◄/►, or AUDIO
Subtitle language	OFF	**Shows the current subtitles language, and** changes the setting.	◄/►, or SUBTITLE
Angle	1/1	**Shows the current angle number and total number of angles, and** changes the angle number.	◄/►, or ANGLE
Sound	NORM.	**Shows the current sound mode, and** changes the setting.	◄/►

VCD2.0 **VCD1.1**

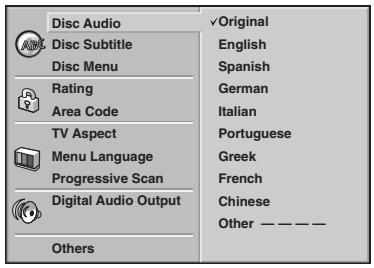
Items		Function (Use ▲/▼ to select desired item)	Selection Method
Track Number	1/4	**Shows the current track number, total number of tracks and PBC On mode, and** skips to the desired track number.	◄ / ►, or Numbers, ENTER/OK
Time	0:16:57	**Shows the elapsed playing time (Display only)**	–
Audio Channel	STER.	**Shows the audio channel, and** changes the audio channel.	◄ / ►, or AUDIO
Sound	NORM.	**Shows the current sound mode, and** any changes to the setting.	◄ / ►

Initial Settings

You can set your own Personal Preferences on the player.

General Operation

1 Press SETUP.
The setup menu appears.



2 Use ▲/▼ to select the desired item.
The screen will show the current setting for the selected option, as well as alternate setting(s).

3 While the desired option is selected, press ►, then ▲/▼ to select the desired setting.

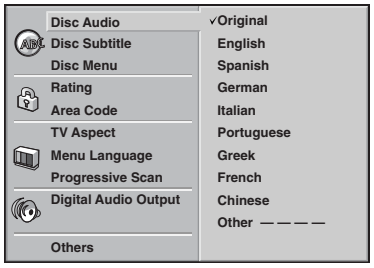
4 Press ENTER/OK to confirm your selection.
Some items require additional steps.

5 Press SETUP, RETURN, or PLAY ► to exit the setup menu.

Language

Disc Language DVD

Select a language for the disc's Menu, Audio, and Subtitle.
Original : The original language set for the disc is selected.
Other : To select another language, press number buttons to enter the corresponding 4-digit number according to the language code list on page 38. If you enter the wrong language code, press CLEAR.



Note
Disc Language selection may not work for some DVDs.

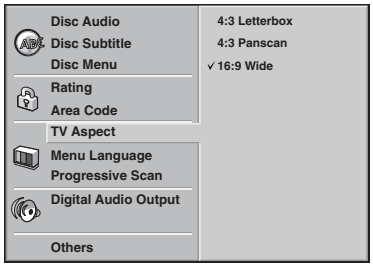
Menu Language

Select a language for the setup menu. This is the menu you see when you press **SETUP**.

Picture

TV Aspect DVD

4:3 Letterbox: Select when a standard 4:3 TV is connected. Displays theatrical images with masking bars above and below the picture.
4:3 Panscan: Select when a conventional TV set is connected. The video material formatted in the Pan & Scan style is played back in that style (Both sides of the picture are cut off.)
16:9 Wide: Select when a 16:9 wide TV is connected.



Progressive Scan DVD

Progressive Scan Video provides the highest quality pictures with less flickering.
If you are using the COMPONENT/PROGRESSIVE SCAN VIDEO OUT jacks, but are connecting the DVD+VCR to a standard (analog) television, set Progressive Scan to Off.
If you are using the Component Video jacks for connection to a TV or monitor that is compatible with a progressive scan signal, set Progressive Scan to On.

This unit can only output 625p progressive scan picture.

Note
Progressive Scan will not be displayed in the setup menu when the rear switch is set at RGB position.

⚠ Caution
Once the setting for progressive scan output is entered, an image will only be visible on a progressive scan compatible TV or monitor. If you set Progressive Scan to On in error, you must reset the unit.
1) Remove any disc from the unit and close the disc tray. See that "disc" is displayed on the display window.
2) Press STOP (■) and hold it for five seconds before releasing it. The video output will be restored to the standard setting and a picture will once again be visible on a conventional analog TV or monitor.

Sound

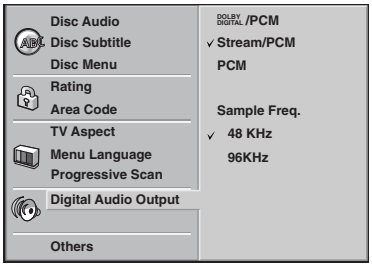
Digital Audio Output

Each DVD disc has a variety of audio output options. Set the player's Digital Audio Output according to the type of audio system you use.

DOLBY DIGITAL/PCM: Select "DOLBY DIGITAL/PCM" if you connected the DVD+VCR's DIGITAL AUDIO OUT jack to a Dolby Digital decoder (or an amplifier or other equipment with a Dolby Digital decoder).

Stream/PCM: Select "Stream/PCM" if you connected the DVD+VCR's DIGITAL AUDIO OUT jack to an amplifier or other equipment with a DTS decoder, Dolby Digital decoder or MPEG decoder.

PCM: Select when connected to a 2-channel digital stereo amplifier. The DVD+VCR outputs sounds in the PCM 2ch format when you play a DVD video disc recorded on the Dolby Digital, MPEG1, or MPEG2 recording system.



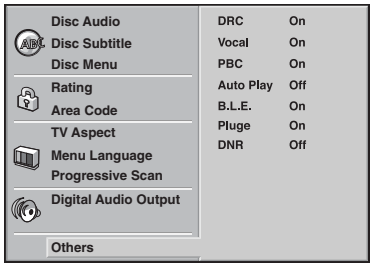
Sample Frequency

To change the Sample Frequency setting, first select the desired Digital Audio Output as indicated as above. If your receiver or amplifier is NOT capable of handling 96KHz signals, select 48KHz. When this choice is made, this unit will automatically convert any 96KHz signals to 48KHz so your system can decode them. If your receiver or amplifier is capable of handling 96KHz signals, select 96KHz. When this choice is made, this unit will pass each type of signal through without any further processing.

Others

The DRC, Vocal, PBC, Auto Play, B.L.E., Pluge and DNR settings can be changed.

- Press ▲/▼ to select the desired item and press ENTER/OK. The setting of the selected item is changed between On and Off.



Dynamic Range Control (DRC) DVD

With the DVD format, you can hear a program's soundtrack in the most accurate and realistic presentation possible, thanks to digital audio technology. However, you may wish to compress the dynamic range of the audio output (the difference between the loudest sounds and the quietest ones). Then, you may listen to a movie at a lower volume without losing clarity of sound. Set DRC to On for this effect.

Vocal DVD

Set Vocal to On only when a multi-channel karaoke DVD is playing. The karaoke channels on the disc will mix into normal stereo sound.

PBC VCD2.0 VCD1.1

Set Playback Control (PBC) to On or Off.
On: Video CDs with PBC are played according to the PBC.
Off: Video CDs with PBC are played the same way as Audio CDs.

Auto Play DVD

You can set up the DVD Player so a DVD disc automatically starts playing whenever the DVD is inserted.
If Auto Play mode is set to On, this DVD player will search a title where playback time is longest and then play back the title automatically.
On: Auto Play function is activated.
Off: Auto Play function is not activated.

Note
The Auto Play function may not work for some DVDs.

B.L.E. (Black Level Expansion) DVD VCD2.0 VCD1.1

To select the black level of playback pictures. Set your preference and monitor's ability.
On: Expanded grey scale. (0 IRE cut off)
Off: Standard grey scale. (7.5 IRE cut off)

Pluge (Blacker than Black) DVD

For proper adjustment of your television brightness settings utilizing a commercially available test disc.
On: Select when you adjust the level of your TV using a commercially available test disc that contains pluge signals.
Off: For normal use.

DNR (Digital Noise Reduction) DVD VCD2.0 VCD1.1

You can reduce ambient noise in the picture.
DNR1: Normal level
DNR2: Expanded level.
Off: Off.

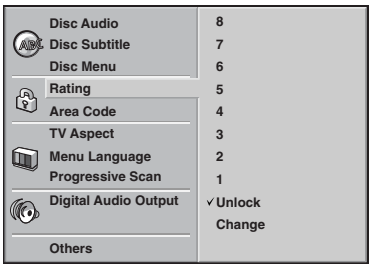
Notes
- Actual picture enhancement may vary depending on the quality of the disc.
- While the DNR2 (expanded level) can provide additional improvement in the reduction of noise in the video signal, it may produce undesirable picture artifacts on some discs. Should this occur, select a more appropriate DNR level (normal or off).
- Depending on the disc, some picture detail may be lost by the picture enhancement.
- A DVD audio disc with Dolby Digital or DTS soundtrack may be played, some DVD audio discs include moving pictures which may be modified by the above processes.

Parental Control

Rating DVD

Movies on DVDs may contain scenes not suitable for children. Therefore, discs may contain Parental Control information that applies to the complete disc or to certain scenes on the disc. These scenes are rated from 1 to 8, and alternatively, more suitable scenes are available for selection on some discs. Ratings are country dependent. The Parental Control feature allows you to prevent discs from being played by your children or to have certain discs played with alternative scenes.

1 Select "Rating" on the Setup menu using the ▲/▼ buttons.



2 While "Rating" is selected, press ►.

3 When you have not entered a password yet;
Enter a 4-digit password using the numbered buttons to create a personal 4-digit security password, then press ENTER/OK. Enter the 4-digit password again and press ENTER/OK to verify.
When you have already entered a password;
Enter a 4-digit password using the numbered buttons to confirm the personal 4-digit security password, then press ENTER/OK.

If you make a mistake before pressing ENTER/OK, press CLEAR and enter 4-digit security password again.

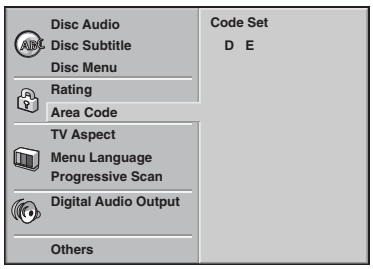
4 Select a rating from 1 to 8 using ▲/▼ buttons.
Level 1 : DVD software for adults cannot be played back.
Level 8 : All DVD software can be played back.
The limitation will be more severe as the level number is lower.
Unlock: *If you select Unlock, Parental Control is not active. The disc will play in full.*
Ratings 1 to 8: *Some discs contain scenes not suitable for children. If you set a rating for the player, all disc scenes with the same rating or lower will be played. Higher rated scenes will not be played unless an alternative scene is available on the disc. The alternative must have the same rating or a lower one. If no suitable alternative is found, playback will stop. You must enter the 4-digit password or change the rating level in order to play the disc.*

5 Press ENTER/OK to confirm your rating selection, then press SETUP to exit the menu.

Area Code DVD

Enter the code of a country/area whose standards were used to rate the DVD video disc, referring to the list (See "Country/Area Code List", page 39).

1 Select Area Code using the ▲/▼ buttons on the setup menu.



2 While Area Code is selected, press ►.

3 Follow step 3 of "Rating" on left.

4 Select the first character using the ▲/▼ buttons.

5 Shift the cursor using ► button and select the second character using ▲/▼ buttons.

6 Press ENTER/OK to confirm your Area code selection, then press SETUP to exit the menu.

Note
Confirmation of the 4-digit password is necessary when the password is changed (see "Changing the 4-digit Code" below).

Changing the 4-digit Code

1 Follow Steps 1-2 as shown above to the left (Rating).
2 Enter the old password, then press ENTER/OK.
3 Select Change using ▲/▼ buttons then press ENTER/OK.
4 Enter the new 4-digit password, then press ENTER/OK.
5 Enter exactly the same password a second time and verify by pressing ENTER/OK.
6 Press SETUP to exit the menu.

If you forget your 4-digit Code

If you forget your password, clear the current password by following the procedure below.

1 Press SETUP to display the setup menu.
2 Use the Number buttons to enter the 6-digit number "210499".
The 4-digit password is cleared.
3 Enter a new password as shown above to the left (Rating).

Playing a tape

You will only be able to load and eject video cassettes when your DVD+VCR is plugged into the mains. Your VCR may also playback recordings from NTSC tapes (on PAL TV).

Getting a better picture
When a cassette is inserted and playback started, the automatic tracking function works to get the best possible picture automatically. If the quality of the recording is poor, repeatedly press ▲ or ▼ on the remote control to manually adjust the tracking until any distortions have been removed.

1 Make sure that you have correctly connected your DVD+VCR as described earlier in this book.
Turn on your TV.
Press I/⏻ to turn on your DVD+VCR.
Insert the video cassette into your DVD+VCR.
The video cassette should have the window side facing up and the arrow facing away from you.

2 Press **PLAY** ► to start playing your tape.
If you load a video cassette which has had its record protection tab removed, playback of the cassette will start automatically.

AUTO TRACKING
Your DVD+VCR will automatically adjust the tracking to give the best picture quality.
If noise bars appear during playback, adjust the tracking manually by pressing **PR/TRK+/-**.
To resume automatic tracking, press **AUTO TRK**.

3 Press **PAUSE/STILL II**/II► to still a picture.
Press **PAUSE/STILL II**/II► repeatedly to advance the tape frame by frame.
If you press **FWD** ►► or **SLOW I►**, the picture will be slowed down at about 1/19 times the normal playback.
Tapes can be paused for up to 5 minutes. After 5 minutes your DVD+VCR will stop the tape to prevent damaging the tape or your DVD+VCR .
Still picture quality can be improved slightly by using ▲ or ▼.

4 Press **PLAY** ► to continue playing your tape.

Picture search:
During playing back press either **REW** ◄◄ or **FWD** ►► to this will enable you to rapidly wind the tape (7 times normal playback) see where you are on the tape.

Logic search:
During fast forwarding or rewinding press and hold **REW** ◄◄ or **FWD** ►► the picture will be played back at 7 times normal playback speed.

5 **Slow motion playback**, **Shuttle :**
During playing back or still picture press ◄ or ►.
You can reach the following playback speeds.
(-7xplay, -3xplay, -play, still, 1/19 slow, play, 2xplay, 7xplay)
To switch off the slow motion and shuttle, press the desired function.
During slow motion and shuttle, the noise bars may appear on the picture according to the status of tape.
If distortions can be seen in the picture, reduce them with ▲ or ▼.

6 Press **STOP** ■ to end playback.
Press **EJECT** ⏏.
If the end of the tape is reached, your DVD+VCR will stop playback automatically, rewind, stop, eject the tape.

CM (Commercial Message) Skip:

This feature enables you during playback of a tape to skip a commercial break in a few seconds, then resume normal playback.
While tape is playing press **INSTANT SKIP** on the remote control to skip commercial (or another programme material).
Repeatedly press **INSTANT SKIP** to skip:
1 Press 30 seconds
2 Press 60 seconds
3 Press 90 seconds
4 Press 120 seconds
5 Press 150 seconds
6 Press 180 seconds

OPR (Optimum Picture Response)

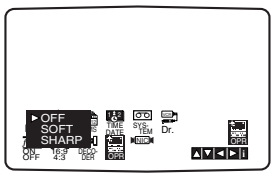
This feature automatically improves playback picture quality by adjusting your DVD+VCR to the condition of the tape.

1 Press **VCR MENU.**

2 Press ◄ or ► to select **OPR**.

3 Press **ENTER/OK**.

4 Press ▲ or ▼ repeatedly to select: **OFF**, **SOFT** or **SHARP**.
Please note that you can only set OPR when playing a tape.



5 Press **VCR MENU** return to screen.

One-touch Timer Recording (OTR)

Your VCR allows you to make recordings using a variety of simple methods:

One-touch Timer Recording (OTR) start recording immediately for a set period of time or until the video cassette runs out.

Your DVD+VCR incorporates Long Play (LP) which enables you to record up to twice the amount of time on a video cassette. For example an E-180 will record up to 180 minutes using Standard Play (SP); using LP you will be able to record up to 360 minutes. Please note there will be a slight loss in picture and sound quality when using LP.

1 Make sure that you have correctly connected your VCR as described earlier in this book.
Press I/⏻ to turn on your VCR.

2 Insert a video cassette with protection tab into your VCR.
The video cassette should have the window side facing up and the arrow facing away from you.

3 Press **PR/TRK +** or **-** to select the **programme number** you wish to record.
You may also directly select programme number using the **numbered buttons** on the remote control.

4 If you wish to record directly from the SCART or RCA sockets repeatedly press **INPUT SELECT** until the socket you wish to record from is displayed.

AV 1 for recording from EURO AV1 SCART socket on the rear of your unit.
AV 2 for recording from EURO AV2 SCART socket on the rear of your unit.
AV 3 for recording from VIDEO IN and AUDIO IN (Left & Right) sockets on the front of your unit.

5 Press **SP/LP** if you wish to record in Long Play or Standard Play.

SP will produce improved picture and sound quality, however LP will provide twice as much recording time as SP.

6 Press **REC/OTR** on the remote to start recording.
RECORD will appear on the TV screen.

Press **REC** on your unit or press **REC/OTR** on the remote several times. Each successive press will increase the record time by 30 minutes until you reach a maximum of 9 hours.

7 Press **PAUSE/STILL II**/II▶ to avoid recording unwanted scenes.
Press **PAUSE/STILL II**/II▶ to continue recording.

Tapes can be paused for up to 5 minutes; RECP will be displayed when a tape is paused. After 5 minutes your DVD+VCR will stop recording to prevent damaging the tape or your DVD+VCR.

8 Press **STOP** ■ to end recording.
Press **EJECT** ⏏.
EJECT will appear on the TV screen for a few seconds.

Notes

- If you do not wish to record on a tape (this can happen quite easily by accident!) remove the protection tab on the back edge of the video cassette.
- It is possible to record on a video cassette with the record protection tab removed by covering the hole with self adhesive tape.
- Remember you can record one programme while watching another by starting your instant recording, press **TV/VCR** to select TV mode and then selecting a different channel on your TV.

Timer recording using On Screen Display

You may set up to seven timer record events within one month of the current date.

Note

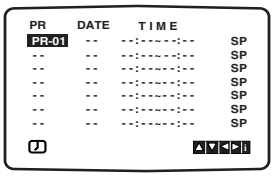
Before setting the timer make sure that you have set the DVD+VCR clock correctly and you know which stations you have tuned TV stations on your DVD+VCR.

1 Insert a video cassette with protection tab into your DVD+VCR.
The video cassette should have the window side facing up and the arrow facing away from you.

2 Press **VCR MENU**.
Press ◄ or ► to select **REC**.
Press **ENTER/OK**.

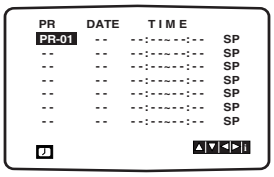
3 Press **ENTER/OK** to start setting the timer record event.
If all timer record events are full press ▲ or ▼ to select the event that you wish to remove and replace.

Press ◄ to delete the event.



4 Press the **numbered buttons** to enter the station that you wish to record.
When selecting stations 1 - 9, press 0 first, then the channel number; for example Stations 3 - 03. You may also select Channels by pressing ▲ or ▼.
Once selected press ►.

If you wish to record from AUDIO IN (L/R) and VIDEO IN on the front or from the EURO SCART sockets on the back of your unit, press INPUT SELECT to select for correct display (AV1, AV2 or AV3).

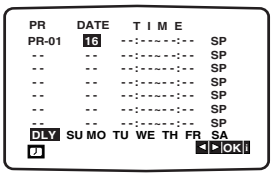


5 Press the **numbered buttons** to enter the date of the programme.

If you press **ENTER/OK** before entering the date you may select one of the following automated recording features. Press ◄ or ► to select, then press **ENTER/OK** to confirm.

DLY To record every day (except Saturday and Sunday) at the same time.

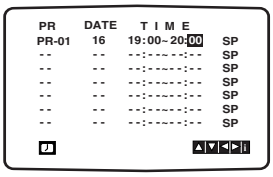
SU~SA To record at the same time every week.



6 Press the **numbered buttons** to enter the recording start and end times of the programme that you wish to record.

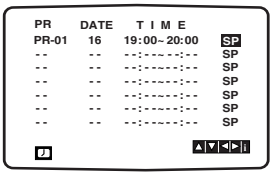
Please note your DVD+VCR uses a 24 hour clock. e.g. 1pm will be displayed as 13:00.

You may also select the start and end times by using ▲ or ▼.



7 Press ► and press ▲ or ▼ to switch VPS/PDC on or off.
Press ► to select the recording speed.

Press ▲ or ▼ to select the desired tape speed (SP, IP, or LP).
IP mode determines how much tape is left and switches speed from SP to LP, if necessary, to complete recording the program. IP mode is not selected when VPS/PDC is ON.



Timer recording using On Screen Display (Continued)

8 Press **VCR MENU** to set another timer record event and follow steps 3 to 7.
Check that the timer event details are correct.
Press **VCR MENU** twice.

If **PLEASE CHECK** is displayed, you have entered incorrectly and will need to re-enter the data.

Press I/⏻ to switch your DVD+VCR to Timer Standby mode.

The timer symbol (⏲) will appear in the display window while your DVD+VCR waits to make the recording.

9 Press STOP (■) to end timer recording.

Notes

- During timer recording standby mode, the DVD and VCR mode cannot be operated. To use the DVD+VCR, press I/⏻. After you use the DVD or VCR, press I/⏻ again to put the VCR into timer recording standby mode.
- If at a later date you wish to **delete** or **change** any of the settings in timer event memory you may do so without having to enter all the timer event information again. Simply display the timer event screen. Use ▲ or ▼ to select the event that you wish to **delete** or **change**.

  Press ◄ to delete the event...or
  Press **ENTER/OK** to change; then press ◄ or ► to select; Station, Date, Start and End times and LP.
  Press ▲ or ▼ to enter the correct information.
- **If Timer record events Overlap...**
  Make sure that the preset times of the timer recording events do not overlap. If they do, the earlier programme will always be given priority.

  Example:
  Programme 1 is programmed to start at 16:00 and end at 17:00.
  Programme 2 is programmed to start at 16:30 and end at 17:30.
  (In this case, Programme 1 will be recorded in its entirety, but only the last 30 minutes of Programme 2 will be recorded.)
- To watch a DVD while performing a timer recording, press **TV/VCR** to select VCR mode.
- **Video Programme System (VPS)**

  The Video Programme System (VPS) ensures that the TV programmes that you have programmed for timer recording will be recorded exactly from their beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start, or if the programme is extended beyond its scheduled time. Also, if a programme is interrupted, for example, if a news flash is inserted, the recording will also be interrupted automatically and resumed when the programme continues.

  The VPS signal is broadcast by the TV station and this controls the timer in the video recorder.

  VPS should be set ON for all timer recordings from TV stations broadcasting these signals. It should be set OFF for all timer recordings from TV stations that are not broadcasting these signals.

  *** The similar system PDC, which is used in the time being in the Netherlands, can also be used with your new video recorder.

Playing a DVD and Video CD

Playback Setup DVD VCD2.0 VCD1.1

- Turn on the TV and select the video input source connected to the DVD player.
- Audio system: Turn on the audio system and select the input source connected to the DVD player.

1 **Press OPEN/CLOSE ⏏ to open the disc tray.**

2 **Load your chosen disc in the tray, with the playback side down.**

3 **Press OPEN/CLOSE ⏏ to close the tray.**
READING appears on the TV screen, and playback starts automatically. If playback does not start, press **PLAY** ►.
In some cases, the disc menu might appear instead.

4 **To stop the playback, press STOP ■.**
Then press **OPEN/CLOSE ⏏** .
The disc tray opens.
Remove the disc and press **OPEN/CLOSE ⏏** then press I/⏻.
The disc tray closes automatically and unit turns off.

If a menu screen is displayed

The menu screen may be displayed first after loading a DVD or Video CD which offer a menu.

DVD

Use the ◄ ► ▲ ▼ buttons to select the title/chapter you want to view, then press **ENTER/OK** to start playback.
Press **TOP MENU** or **MENU** to return to the menu screen.

VCD2.0

- Use the number buttons to select the track you want to view.
  Press **RETURN** to return to the menu screen.
- Menu setting and the exact operating procedures for using the menu may differ depending on the disc. Follow the instructions on each menu screen.
  You also may set PBC to Off under setup. See page 20.

Notes

– If Parental Control is set and the disc is not within the Rating settings (not authorized), the 4-digit code must be entered and/or the disc must be authorized (see "Parental Control", on page 21).
– DVDs may have a region code.
Your player will not play discs that have a region code different from your player. The region code for this player is 2 (two).

General Features

Note

Unless stated otherwise, all operations described use the remote control. Some features may also be available on the Setup menu.

Moving to another TITLE DVD

When a disc has more than one title, you can move to another title as follows:

- Press **DISPLAY**, then press the appropriate numbered button (0-9) to select a title number.

Moving to another CHAPTER/TRACK

DVD **VCD1.1**

When a title on a disc has more than one chapter or a disc has more than one track, you can move to another chapter/track as follows:

- Press **SKIP** ►►I or I◄◄ briefly during playback to select the next chapter/track or to return to the beginning of the current chapter/track.
- Press **SKIP** I◄◄ twice briefly to step back to the previous chapter/track.
- To go directly to any chapter during DVD playback, press **DISPLAY**. Then, press ▲/▼ to select chapter/track icon. Then, enter the chapter/track number using the numbered buttons (0-9).

Note

For two-digit numbers, press the numbered buttons (0-9) in rapid succession.

Search DVD VCD2.0 VCD1.1

1 Press **REW** ◄◄ or **FWD** ►► during playback.
The player will now go into SEARCH mode.
2 Press **REW** ◄◄ or **FWD** ►► repeatedly to select the required speed:
◄◄X2, ◄◄X4, ◄◄X16, ◄◄X100 (backward) or ►►X2, ►►X4, ►►X16, ►►X100 (forward).
With a Video CD, the Search speed changes:
◄◄X2, ◄◄X4, ◄◄X8 (backward) or ►►X2, ►►X4, ►►X8 (forward).
3 To return to playback, press **PLAY** ►.

Still Picture and Frame-by-Frame Playback

DVD **VCD2.0** **VCD1.1**

1 Press **PAUSE/STEP II**/II► during playback.
The player will now go into PAUSE mode.
2 You can advance the picture frame-by-frame by pressing **PAUSE/STEP II**/II► repeatedly on the remote control.

3 To return to playback, press **PLAY** ►.

General Features (continued)

Slow Motion DVD VCD2.0 VCD1.1

1 Press **SLOW** I▶ during playback or still mode.
The player will enter SLOW mode.
2 Press **SLOW** I▶ repeatedly to select the required speed : I▶ 1/16, I▶ 1/8, I▶ 1/4 or I▶ 1/2 (forward).
3 To exit slow motion mode, press PLAY ►.

Random Karaoke DVD VCD2.0 VCD1.1

1 Press **RANDOM** during playback or in stop mode. The unit automatically begins Random Playback and "RANDOM" appears on the TV screen.
2 To return to normal playback, press **RANDOM** again until "NORMAL" appears on the TV screen.

Tip
By pressing SKIP I◄◄ or ►►I during Random playback, the unit selects another title (track) and resumes Random playback.

Notes
- This function only works with DVD karaoke discs and video CD without PBC.
- On a Video CD with PBC, you must set PBC to Off on the setup menu to use the Random function. See page 20.

Repeat DVD VCD2.0 VCD1.1

DVD Video Discs - Repeat Chapter/Title/Off

1 To repeat the currently playing chapter, press **REPEAT**.
The Repeat Chapter icon appears on the TV screen.
2 To repeat the title currently playing, press **REPEAT** a second time.
The Repeat Title icon appears on the TV screen.
3 To exit Repeat mode, press **REPEAT** a third time.
The Repeat Off icon appears on the TV screen.

Video CDs - Repeat Track/All/Off

1 To repeat the track currently playing, press **REPEAT**.
The Repeat Track icon appears on the TV screen.
2 To repeat the disc currently playing, press **REPEAT** a second time.
The Repeat All icon appears on the TV screen.
3 To exit Repeat mode, press **REPEAT** a third time.
The Repeat Off icon appears on the TV screen.

Note
On a Video CD with PBC, you must set PBC to Off on the setup menu to use the Repeat function. See page 20.

Repeat A-B DVD VCD2.0 VCD1.1

To repeat a sequence in a title:

1 Press **A-B RPT** at your chosen starting point.
"A *" briefly on the TV screen.
2 Press **A-B RPT** again at your chosen end point.
"A B" appears briefly on the TV screen, and the repeat sequence begins ("**A ⟷ B**" appears the display window).
3 To cancel the sequence, press **A-B RPT**.

Time Search DVD

The Time Search function allows you to start playing at any chosen time on the disc.

1 Press **DISPLAY** during playback. The on-screen display appears on the screen.
The Time Search box shows the elapsed playing time of the current disc.
2 Within 10 seconds, press ▲/▼ to select the Time Search icon in the on-screen display.
The "-:--:--" appears in the Time Search box.
3 Within 10 seconds, use the number buttons to enter the required start time. Enter hours, minutes, and seconds from left to right in the box.
If you enter the wrong numbers, press CLEAR to remove the numbers you entered. Then enter the correct numbers.
4 Within 10 seconds, press **ENTER/OK** to confirm the start time.
Playback starts from the selected time on the disc. If you enter an invalid time, playback will continue from the current point.

3D Surround DVD VCD2.0 VCD1.1

This unit can produce a 3D Surround effect, which simulates multi-channel audio playback from two conventional stereo speakers, instead of the five or more speakers normally required to listen to multi-channel audio from a home theater system.

1 Press **DISPLAY** during playback.
2 Use ▲/▼ to select the sound icon.
The sound option will be highlighted.
3 Use ◄/► to select "NORM.", "3D SUR" or "DIALOGUE".

Note
"DIALOGUE" is only applicable to DVD discs.

Screen Saver

A screen saver image appears when you leave the DVD Player in stop mode for about five minutes.

General Features (continued)

Zoom DVD VCD2.0 VCD1.1

The Zoom function allows you to enlarge the video image and to move through the enlarged image.

1 Press **ZOOM** during playback or still playback to activate the Zoom function.
If you press **ZOOM** repeatedly, the magnification level increase up to six steps

2 Use the ◄ ► ▲ ▼ buttons to move through the zoomed picture.

3 Press **CLEAR** to resume normal playback or return to the paused image.

Note
The zoom function may not work for some DVDs.

Marker Search DVD VCD2.0 VCD1.1

You can start playback from a memorized point. Up to nine points can be memorized.
To enter a mark, follow these steps.

1 During disc playback, press **MARKER** when playback reaches the spot that you want to memorize.
The Marker icon will appear on the TV screen briefly.

2 Repeat step 1 to enter up to nine Marker points on a disc.

To Recall a Marked Scene

1 During disc playback, press **SEARCH**.
The MARKER SEARCH menu will appear on the screen.

2 Within 10 seconds, press ◄/► to select a Marker number that you want to recall.

3 Press **ENTER/OK**.
Playback will start from the Marked scene.

4 To remove the MARKER SEARCH menu, press **SEARCH**.

To clear a Marked Scene

1 During disc playback, press **SEARCH**.
The Marker Search menu will appear on the screen.

2 Within 10 seconds, press ◄/► to select a Marker number that you want to erase.

3 Press **CLEAR**.
The Marker number will be erased from the list.

4 Repeat steps 2 and 3 to erase additional Marker numbers.

5 To remove the MARKER SEARCH menu, press **SEARCH**.

One Touch Replay DVD VCD2.0 VCD1.1

Press **INSTANT REPLAY** during playback and the disc will reverse picture search through 10 seconds of playback. And then the playback will start from the point again.

Special DVD Features DVD

Checking the contents of DVD Video discs: Menus

DVDs may offer menus that allow you to access special features. To use the disc menu, press **MENU**.
Then, press the appropriate number button to select an option. Or, use the ◄/►/▲/▼ buttons to highlight your selection, then press **ENTER/OK**.

Title Menu DVD

1 Press **TOP MENU**.
If the current title has a menu, the menu will appear on the screen. Otherwise, the disc menu may appear.

2 The menu can list camera angles, spoken language and subtitle options, and chapters for the title.

3 To remove the title menu, press **TOP MENU** again.

Disc Menu DVD

1 Press **MENU**.
The disc menu is displayed.

2 To remove the disc menu, press **MENU** again.

Camera Angle DVD

If the disc contains sequences recorded from different camera angles, the angle icon blinks on the TV screen. You can then change the camera angle if you wish.

- Press **ANGLE** repeatedly during playback to select a desired angle.
The number of the current angle appears on the display.

Changing the Audio Language DVD

Press **AUDIO** repeatedly during playback to hear a different audio language or audio track.

Changing the Audio Channel

VCD2.0 VCD1.1

Press **AUDIO** repeatedly during playback to hear a different audio channel (STEREO, LEFT or RIGHT).

Subtitles DVD

Press **SUBTITLE** repeatedly during playback to see the different subtitle languages.

Note
If ⃠ appears, the feature is not available on the disc.

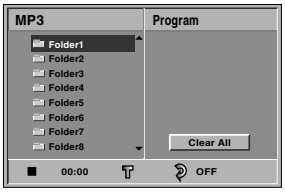
Playing an Audio CD and MP3 Disc

CD MP3

The DVD+VCR can play MP3 formatted recordings on CD-ROM, SVCD, CD-R or CD-RW discs.
Before playing MP3 recordings, read the notes on MP3 Recordings on right.

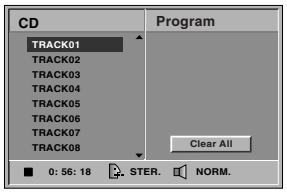
1 **Insert a disc and close the tray.**
Audio CD; Audio CD menu appears on the TV screen go to step 4.
MP3 disc; The MP3/JPEG choice menu appears on the TV screen go to step 2.

2 **Use ▲/▼ to select the MP3 then press ENTER/OK.**
The MP3 menu appears on the TV screen.
Press RETURN to move to the MP3/JPEG choice menu.

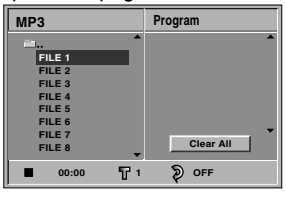


3 **Use ▲/▼ to select a folder then press ENTER/OK.**
A list of files in the folder appears.

4 **Use ▲/▼ to select a track then press PLAY ► or ENTER/OK.**
Playback starts.
During playback, the current track's elapsed playing time will appear on the display window and menu.
Playback will stop at the end of the disc.
Press TOP MENU to move to the next page.
Press MENU to move to the previous page.



Audio CD menu



MP3 menu

Tip
If you are in a file list and want to return to the Folder list, use the ▲/▼ to highlight and press ENTER/OK to return to the previous menu screen.

5 **To stop playback at any other time, press STOP ■.**

Notes on MP3 Recordings

About MP3

- An MP3 file is audio data compressed by using the MPEG1 audio layer-3 file-coding scheme. We call files that have the ".mp3" file extension "MP3 files".
- The player cannot read an MP3 file that has a file extension other than ".mp3".

MP3 Disc compatibility with this player is limited as follows:

1. Sampling Frequency / only at 44.1kHz .
2. Bit rate / within 32 - 320kbps .
3. CD-R physical format should be "ISO 9660"
4. If you record MP3 files using the software which cannot create a FILE SYSTEM, for example "Direct-CD" etc., it is impossible to playback MP3 files. We recommend that you use "Easy-CD Creator", which creates an ISO9660 file system.
5. A single session disc requires MP3 files in the first track. If there is no MP3 file in the 1st track, it cannot playback MP3 files. If you wish to playback MP3 files, format all the data in the disc or use a new one.
6. File names should be named using 8 letters or less and must incorporate ".mp3" extension
   e.g. "********.MP3".
7. Do not use special letters such as "/ : * ? " < > " etc.
8. Total number of files on the disc should be less than 650.

This DVD+VCR requires discs/recordings to meet certain technical standards in order to achieve optimal playback quality. Pre-recorded DVDs are automatically set to these standards. There are many different types of recordable disc formats (including CD-R containing MP3 files). That require certain pre-existing conditions (see above) to insure compatible playback.

Customers should also note that permission is required in order to download MP3 files and music from the Internet. Our company has no right to grant such permission. Permission should always be sought from the copyright owner.

Pause CD MP3

1 Press **PAUSE/STEP II**/II▶ during playback.

2 To return to playback, press **PLAY** ► or press **PAUSE/STEP II**/II▶ again.

Moving to another Track CD MP3

- Press **SKIP** ▶▶I or I◀◀ briefly during playback to go to the next track or to return to the beginning of the current track.
- Press **SKIP** I◀◀ twice briefly to step back to the previous track.
- In case of audio CD, to go directly to any track, enter the track number using the numbered buttons (0-9) during playback.

Repeat Track/All/Off CD MP3

1 To repeat the track currently playing, press **REPEAT**.
The Repeat icon and "TRACK" appears on the menu screen.

2 To repeat all tracks on a disc, press **REPEAT** a second time.
The Repeat icon and "ALL" appears on the menu screen.

3 To cancel Repeat mode, press **REPEAT** a third time.
The Repeat icon and "OFF" appears on the menu screen.

Search CD MP3

1 Press **REW** ◀◀ or **FWD** ▶▶ during playback.
The player will now go into **SEARCH** mode.

2 Press **REW** ◀◀ or **FWD** ▶▶ repeatedly to select the required speed: ◀◀X2, ◀◀X4, ◀◀X8 (backward) or ▶▶X2, ▶▶X4, ▶▶X8 (forward).
Search speed and direction are indicated on the menu screen.

3 To exit SEARCH mode, press **PLAY** ►.

Random CD MP3

1 Press **RANDOM** during playback or when playback is stopped.
The unit automatically begins Random Playback and "RAND." appears on the menu screen.

2 To return to normal playback, press **RANDOM**.
"RAND." disappears on the menu screen.

Repeat A-B CD

To repeat a sequence.

1 During disc playback, press **A-B RPT** at your chosen starting point.
The Repeat icon and "A ⋆ " appears on the menu screen.

2 Press **A-B RPT** again at your chosen end point.
The Repeat icon and "A B" appears on the menu screen, and the sequence begins to play repeatedly.

3 To exit the sequence and return to normal play, press **A-B RPT** again.
The Repeat icon and "OFF" appears on the menu screen.

3D Surround CD

This unit can produce a 3D Surround effect, which simulates multi-channel audio playback from two conventional stereo speakers, instead of the five or more speakers normally required to listen to multi-channel audio from a home theater system.

1 Press **DISPLAY** or **AUDIO** during playback.

2 Use ◀/▶ to select the sound icon.
The sound option will be highlighted.

3 Use ▲/▼ to select "NORM.", or "3D SUR".

Changing the Audio Channel CD

Press **AUDIO** repeatedly during playback to hear a different audio channel (STER., LEFT, or RIGHT).

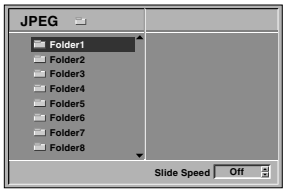
Operation with JPEG Disc

Viewing a JPEG disc JPEG

This DVD+VCR can play discs with JPEG files. Before playing JPEG recordings, read the notes on JPEG Recordings on right.

1 Insert a disc and close the tray.
The MP3/JPEG choice menu appears on the TV screen.

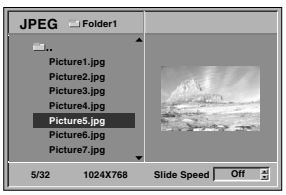
2 Press ▲/▼ to select the JPEG then press ENTER/OK.
The JPEG menu appears on the TV screen.



3 Press ▲/▼ to select a folder then press ENTER/OK.
A list of files in the folder appears.
Press RETURN to move to the MP3/JPEG choice menu.

Tip
If you are in a file list and want to return to the Folder list, use the ▲/▼ buttons on the remote to highlight " .. " and press ENTER/OK to return to the previous menu screen.

4 If you want to view a particular file, press ▲/▼ to highlight a file and press ENTER/OK or PLAY ►.
Viewing the file proceeding starts.
During viewing a file, press RETURN to move to the previous menu (JPEG menu).
Press TOP MENU to move to the next page.
Press MENU to move to the previous page.



Tip
There are three viewing Slide Speed options: Fast, Normal, Slow, and Off. Press ◄/► to highlight the Slide Speed then press ▲/▼ to select the option you want to use, and press ENTER/OK.

5 To stop viewing at any other time, press STOP ■.
The JPEG menu appears.

Moving to another File

Press **SKIP** I◄◄ or ►►I once during viewing a picture to advance to the next file or to the previous file.

Still Picture

1 Press **PAUSE/STEP II**/II► during slide show.
The player will now go into PAUSE mode.
2 To return to the slide show, press **PLAY** ► or press **PAUSE/STEP II**/II► again.

To flip the picture

Press ▲/▼ during showing a picture to flip the picture horizontally or a vertically.

To rotate picture

Press ◄/► during showing a picture to rotate the picture clockwise or counter clockwise.

Notes on JPEG Recordings

- Depending upon the size and number of the JPEG files, it could take a long time for the DVD+VCR to read the disc's contents. If you don't see an on-screen display after several minutes, some of the files are too big — reduce the resolution of the JPEG files to less than 2 mega pixels and burn another disc.
- Total number of files and folders on the disc should be less than 650.
- Some disc may be incompatible due to different recording format or condition of disc.
- When you are using software such as "Easy CD Creator" to burn the jpeg files into the CD-R, ensure that all the selected files have the ".jpg" extensions when copying into the CD layout.
- If the files have ".jpe" or .jpeg extensions, please rename them as .jpg files.
- File names without .jpg extension will not be able to be read by this DVD+VCR. Even though the files are shown as JPEG image files in windows explorer.

Programmed Playback CD VCD2.0 VCD1.1 MP3

Programmed Playback with Audio CD and MP3 Disc

The Program function enables you to store your favorite tracks from any disc in the player memory.
Program can contain 30 tracks.

1 Press PROGRAM during playback or in the stop mode to enter the Program Edit mode.

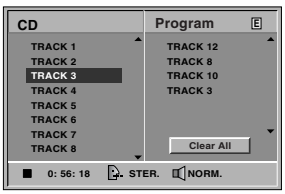
The E mark will appear to the right of the word Program on the right side of the menu screen.

Note

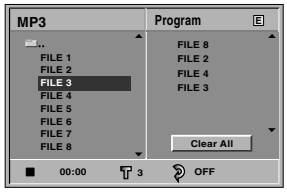
Press PROGRAM to exit the Program Edit mode; the E mark will disappear.

2 Select a track, then press ENTER/OK to place the selected track on the Program list.

3 Repeat step 2 to place additional tracks on the Program list.



Audio CD menu



MP3 menu

4 Press ►.

The programmed track you selected last is highlighted on the program list.

5 Press ▲/▼ to select the track you want to start playing.

Press TOP MENU to move to the next page.
Press MENU to move to the previous page.

6 Press PLAY ► to start.

Playback begins in the order in which you programmed the tracks and PROG. appears on the menu screen.
Playback stops after all of the tracks on the Program list have played once.

7 To resume normal playback from programmed playback, press PROGRAM.

Select a track of CD (or MP3) list and then press ENTER/OK.

PROG. indicator disappears from the menu screen.

Programmed Playback with Video CD

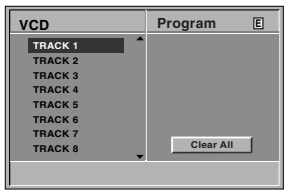
Note

On a Video CD with PBC, you must set PBC to Off on the setup menu to use the Program function. See page 20.

1 Insert Video CD and close the tray.

2 Press PROGRAM while playback is stopped.

The VCD Program menu will appear.



Note

Press RETURN or PROGRAM to exit the Program menu.

3 Follow steps 2-5 of "Programmed Playback with Audio CD and MP3 disc" on left.

4 Press PLAY ► to start.

Playback begins in the order in which you programmed the tracks. "PROGRAM" indicator will appear briefly on the TV screen.
Playback stops after all of the tracks on the Program list have played once.

5 To resume normal playback from programmed playback, press PROGRAM.

"NORMAL" indicator will appear briefly on the TV screen.

Repeat Programmed Tracks

- To repeat the track currently playing, press REPEAT.
  The Repeat icon and TRACK appears on the menu screen.
- To repeat all tracks on the program list, press REPEAT a second time.
  The Repeat icon and ALL appears on the menu screen.
- To cancel Repeat mode, press REPEAT a third time.
  The Repeat icon and OFF appears on the menu screen.

Erasing a Track from Program List

1 Press PROGRAM during playback (Audio CD and MP3 disc only) or in the stop mode to enter the Program Edit mode.
The E mark will appear.
2 Press ► to move to the Program list.
3 Use ▲/▼ to select the track that you wish to erase from the Program list.
4 Press CLEAR.
The track will be erased from the Program list.

Erasing the Complete Program List

1 Follow steps 1-2 of Erasing a Track from Program List as above.
2 Use ▲/▼ to select Clear All, then press **ENTER/OK**.
The complete Program for the disc will be erased.
The programs are also cleared when the disc is removed.

Hi-Fi Stereo Sound System (NIC)

Your VCR will record and playback Hi-Fi stereo sound. In addition it has a stereo NICAM digital stereo sound decoder. This allows you to record and playback the sound in several different ways. Video cassettes recorded on your VCR will have a normal mono audio track and two VHS Hi-Fi stereo audio tracks. These stereo tracks allow you to make audio recordings in Hi-Fi stereo or bilingual mode from a TV broadcast, stereo audio system, video disc or another Hi-Fi VCR.

1 Your VCR's NICAM digital sound decoder allows you to enjoy broadcasts with NICAM sound, as well as standard stereo, bilingual and mono sound. The particular type of sound received or that recorded will be briefly displayed on the TV screen for a couple of seconds:
STEREO NICAM
Sound is automatically recorded on the Hi-Fi stereo and mono tracks of the video tape.
BIL NICAM
Both audio channels will be recorded on the Hi-Fi stereo tracks. The primary language channel (left) will be recorded on the mono track of the video tape.
MONO
The sound is recorded on the Hi-Fi tracks and the mono track of the video tape without any separation.

2 Press **AUDIO** repeatedly until the desired audio mode appears.

3 The choice is **STEREO**, **LEFT**, **RIGHT** and **MONO**. In **BIL NICAM** playback the primary language is output on the left channel and the secondary channel is output simultaneously from the right channel when audio output is set to **STEREO**. The primary language will be output from both channels when the audio setting is **MONO**.
Please note that when adjusting the tracking control Hi-Fi stereo sound may revert to **MONO**.

Note
When OFF is selected in NIC, only mono sound will be output.

Blank Search

The Blank Search enables you to locate the end of any recording. Whenever a recording creates, a blank content is recorded on the tape.
Press **BLANK SEARCH** in the stop mode and it rapidly advanced to find blank content.
To find next blank content, press **BLANK SEARCH** again.

On Screen Display (F.OSD)

You may easily display the current time or tape counter, amount of tape left, day, month, year, day of week, programme channel, tape speed and operational mode of your DVD+VCR on the TV screen. If a recording is taking place these On Screen Displays will not be recorded onto the tape.

1 Press **CLK/CNT** to display.
Press **CLK/CNT** repeatedly to cycle through the display options. The tape counter and amount of tape left will appear if there is a tape loaded.

2 After 3 seconds the majority of the On Screen Displays will clear leaving only the clock or tape counter and the amount of tape left on the screen. Press **CLK/CNT** again to remove all displays from the TV screen.

Note
It cannot display when F.OSD is OFF.

Tape Counter Memory Stop

The **Digital Tape Counter** can be displayed on the display window instead of the time by pressing **CLK/CNT** on the remote control. The Digital Tape Counter indicates the relative positions of recordings on the tape.

1 Press **CLK/CNT**.
Press **COUNTER RESET** to set the counter to 0:00:00.
Press **PLAY** ► or start recording.
The tape counter will display the actual play time in hours, minutes and seconds.

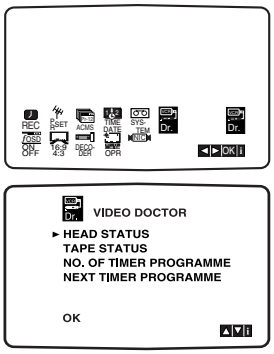
2 Press **STOP** ■ when playback or recording is complete.
Press **REW** ◄◄.
The tape will rewind and automatically stop when the counter returns to 0:00:00.

Note
To rewind to the beginning of the tape, press ◄◄ again.

Video Doctor (Self-Diagnosis)

This feature informs you that there is a problem with your VCR. These error messages will appear on the TV screen.

1 Press **VCR MENU**.
Press ◄ or ► to select **Dr**.
Press **ENTER/OK**.



2 Press ▲ or ▼ to check a problem.

HEAD STATUS
- **PLEASE CLEAN:**
  Clean your video heads.

TAPE STATUS
- **NOT RECORDABLE:**
  Insert a tape with its protection tab in place

NO. OF TIMER PROGRAMME
- **2**
  Shows the number of timer recording.

NEXT TIMER PROGRAMME
- **PR-01 26 10:00~11:00 SP**
  Shows the current status of timer recording.

3 Press **VCR MENU** to remove the menus from the TV screen.

To set the decoder

We have already described, how to connect a decoder for pay-TV station as CANAL+ or PREMIERE on page 11. For the recording of an encoded station you do not have to control anything. You just select the station and wait shortly until the decoding will start.

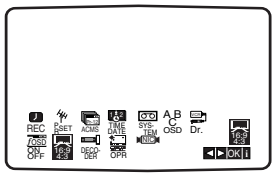
1 Press **VCR MENU**.
The main menu will appear on the TV screen.
Press ◄ or ► to select the **DECODER**.
Press **ENTER/OK**.

2 Press ▲ or ▼ to select.
ON: When the decoder is connected to the AV2 socket.
OFF: When another VCR is connected to the AV2 socket.
Press **VCR MENU** to return to a TV picture.

Wide Screen Compatibility 16:9

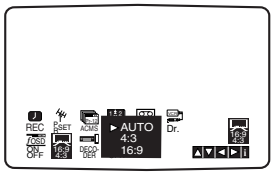
Your VCR can record and play back wide screen aspect ratio programmes (16:9). To record a wide screen format programme successfully the correct type of wide screen signal must be broadcast by the TV station.

1 Switch on your VCR.
Press **VCR MENU**.
Press ◄ or ► to select **16:9/4:3**.
Press **ENTER/OK**.



2 Press ▲/▼ repeatedly to select: **AUTO, 4:3** or **16:9**.

AUTO:
Automatically plays back Wide-Screen programmes as Wide-Screen and Normal programmes as normal.
4:3
Only for playing back and recording Normal format recordings (4:3).
16:9:
Only for playing back and recording Wide-Screen format recordings (16:9).



3 Press **VCR MENU** to remove the menus from the TV screen.

Copying from DVD To VCR

This unit allows you to copy the contents of a DVD to a VHS tape with a press of the **REC/OTR** button.

Note
If the DVD you are attempting to copy is copy protected, you may not be able to copy the disc.

1 **Insert Disc**
Insert the disc you wish to copy in the DVD deck and close the disc tray.

2 **Insert VHS Tape**
Insert a blank VHS videotape into the VCR deck.

3 **Press DVD so that the DVD indicator lights up.**

4 **Copy the DVD to VHS Tape**
Press the **REC** ● button on the unit front panel.
- The DVD will go into Play mode and the VCR will go into Record mode.
- If the DVD disc menu appears, you may need to press the Play button manually to begin copying.

5 **Stop the Copy Process.**
Press STOP ■.

Recording from another video recorder

With this video recorder you can make recordings from an external source, such as copying from another video recorder or a camcorder.

Note
In the following description, this video recorder will be one used for recording and will be referred to as VCR B. The other appliance will be used for playback and will be referred to as VCR A.

1 VCR A should be connected to the SCART socket on the rear panel of your unit or the AV sockets on the front panel of your unit.

2 Insert the recorded tape into VCR A and a blank tape into VCR B.

3 To start recording, press the **REC** ● on VCR B and **PLAY** ► on VCR A.

4 When you want to finish copying, press **STOP** ■ on this video recorder and then **STOP** ■ the VCR A.

Troubleshooting

Check the following guide for the possible cause of a problem before contacting service.

Symptom	Cause	Correction
No power.	● The power cord is disconnected	● Plug the power cord into the wall outlet securely.
The power is on, but the DVD+VCR player does not work.	● DVD or VCR button is not switched properly.	● Refer to page 6
	● No disc is inserted. ● No tape is inserted.	● Insert a disc or tape. (Check that the disc or tape indicator in the display window is lit.)
No picture.	● The TV is not set to receive DVD+VCR signal output.	● Select the appropriate video input mode on the TV so the picture from the DVD+VCR player appears on the TV screen.
	● The video cable is not connected securely.	● Connect the video cable into the jacks securely.
	● The Progressive Scan is set to On on the setup menu but is connected to a standard(analog) television.	● Set Progressive Scan to Off (see page 19).
No sound.	● The equipment connected with the audio cable is not set to receive DVD+VCR signal output.	● Select the correct input mode of the audio receiver so you can listen to the sound from the DVD+VCR player.
	● The audio cables are not connected securely.	● Connect the audio cable into the jacks securely.
	● The power of the equipment connected with the audio cable is turned off.	● Turn on the equipment connected with the audio cable.
	● The Digital Audio Output is set to the wrong position.	● Set the Digital Audio Output to the correct position, then turn on the DVD+VCR player again by pressing I/⏻.
The playback picture is poor.	● The disc is dirty.	● Clean the disc.
	● The TV channels are not tuned in properly	● Check tuning, carry out tuning again.
	● Tape heads are dirty.	● Clean video heads.
	● Tape is a rental or was recorded on another VCR.	● Use PR/TRK (+/-) for manual tracking adjustment while tape is playing.
	● This unit can only output 525p Progressive scan picture.	● Make sure that your TV can support 525p Progressive scan picture or set Progressive scan to off.
The DVD+VCR player does not start playback.	● An unplayable disc is inserted.	● Insert a playable disc. (Check the disc type and Regional code.)
	● The disc is placed upside down.	● Place the disc with the playback side down.
	● The disc is not placed within the guide.	● Place the disc on the disc tray correctly inside the guide.
	● The disc is dirty.	● Clean the disc.
	● The Rating level is set.	● Cancel the Rating function or change the rating level.
Video tape cannot be inserted.	● Is the cassette compartment empty?	● Eject the tape in.
No Hi-Fi sound	● Audio mode is not set properly.	● Select STEREO by repeatedly pressing AUDIO on the remote control.
No NICAM sound recording	● NICAM mode is not set properly.	● Make sure NICAM in the menu is set to AUTO for the station to be recorded.

Troubleshooting (Continued)

Symptom	Cause	Correction
The remote control does not work properly.	• There is an obstacle in the path of the remote control and this unit.	• Remove the obstacle.
	• The batteries in the remote control are exhausted.	• Replace the batteries with new ones.
	• The remote control is not pointed at the remote sensor of the DVD+VCR.	• Point the remote control at the remote sensor of the DVD+VCR.
	• The remote control is too far from the DVD+VCR.	• Operate the remote control within 23ft (7m).
	• This remote control use the same buttons for VCR and DVD functions (ex.PLAY).	• When using a VCR, first press the VCR button. When using a DVD, first press the DVD button.
Camcorder image is not shown.	• Camcorder is off.	• Turn camcorder on and operate properly.
Camcorder image via A/V input to DVD+VCR is not shown on TV screen.	• DVD+VCR SOURCE SELECT is not set to AV1 or AV3.	• Press INPUT SELECT to select LINE input channel (AV1 or AV3).
Timer recording is not possible.	• Clock in DVD+VCR is not set to correct time.	• Set clock to correct time. See Setting the clock Manually on page 14.
	• Timer has been programmed incorrectly.	• Reprogram Timer. See Timer recording using On Screen Display on page 24.
	• ⏲ indicator does not appear.	• Press I/⏻ to switch to Timer recording standby mode.

Video Head Cleaning
Whenever a video cassette is inserted into or ejected from your VCR the video head is automatically cleaned.
This should mean that additional head cleaning should not be necessary.
However, dirt accumulating on the head after a long period of time can cause the playback picture to become blurred or broken up. High quality video cassette tapes will not normally deposit dirt onto the video head, but old or damaged tapes might.

Language Code List

Enter the appropriate code number for the initial settings Disc Audio, Disc Subtitle and/or Disc Menu (See page 19).

Code	Language	Code	Language	Code	Language	Code	Language
6566	Abkhazian	7074	Fiji	7678	Lingala	8373	Singhalese
6565	Afar	7073	Finnish	7684	Lithuanian	8375	Slovak
6570	Afrikaans	7082	French	7775	Macedonian	8376	Slovenian
8381	Albanian	7089	Frisian	7771	Malagasy	8379	Somali
6577	Ameharic	7176	Galician	7783	Malay	6983	Spanish
6582	Arabic	7565	Georgian	7776	Malayalam	8385	Sudanese
7289	Armenian	6869	German	7784	Maltese	8387	Swahili
6583	Assamese	6976	Greek	7773	Maori	8386	Swedish
6588	Aymara	7576	Greenlandic	7782	Marathi	8476	Tagalog
6590	Azerbaijani	7178	Guarani	7779	Moldavian	8471	Tajik
6665	Bashkir	7185	Gujarati	7778	Mongolian	8465	Tamil
6985	Basque	7265	Hausa	7865	Nauru	8484	Tatar
6678	Bengali; Bangla	7387	Hebrew	7869	Nepali	8469	Telugu
6890	Bhutani	7273	Hindi	7879	Norwegian	8472	Thai
6672	Bihari	7285	Hungarian	7982	Oriya	6679	Tibetan
6682	Breton	7383	Icelandic	8065	Panjabi	8473	Tigrinya
6671	Bulgarian	7378	Indonesian	8083	Pashto, Pushto	8479	Tonga
7789	Burmese	7365	Interlingua	7065	Persian	8482	Turkish
6669	Byelorussian	7165	Irish	8076	Polish	8475	Turkmen
7577	Cambodian	7384	Italian	8084	Portuguese	8487	Twi
6765	Catalan	7465	Japanese	8185	Quechua	8575	Ukrainian
9072	Chinese	7487	Javanese	8277	Rhaeto-Romance	8582	Urdu
6779	Corsican	7578	Kannada	8279	Rumanian	8590	Uzbek
7282	Croatian	7583	Kashmiri	8285	Russian	8673	Vietnamese
6783	Czech	7575	Kazakh	8377	Samoan	8679	Volapük
6865	Danish	7589	Kirghiz	8365	Sanskrit	6789	Welsh
7876	Dutch	7579	Korean	7168	Scots Gaelic	8779	Wolof
6978	English	7585	Kurdish	8382	Serbian	8872	Xhosa
6979	Esperanto	7679	Laothian	8372	Serbo-Croatian	7473	Yiddish
6984	Estonian	7665	Latin	8378	Shona	8979	Yoruba
7079	Faroese	7686	Latvian, Lettish	8368	Sindhi	9085	Zulu

Country/Area Code List

Enter the appropriate code number for the initial setting Area Code (See page 21).

Code	Country/Area
AD	Andorra
AE	United Arab Emirates
AF	Afghanistan
AG	Antigua and Barbuda
AI	Anguilla
AL	Albania
AM	Armenia
AN	Netherlands Antilles
AO	Angola
AQ	Antarctica
AR	Argentina
AS	American Samoa
AT	Austria
AU	Australia
AW	Aruba
AZ	Azerbaidjan
BA	Bosnia-Herzegovina
BB	Barbados
BD	Bangladesh
BE	Belgium
BF	Burkina Faso
BG	Bulgaria
BH	Bahrain
BI	Burundi
BJ	Benin
BM	Bermuda
BN	Brunei Darussalam
BO	Bolivia
BR	Brazil
BS	Bahamas
BT	Bhutan
BV	Bouvet Island
BW	Botswana
BY	Belarus
BZ	Belize
CA	Canada
CC	Cocos (Keeling) Islands
CF	Central African Republic
CG	Congo
CH	Switzerland
CI	Ivory Coast
CK	Cook Islands
CL	Chile
CM	Cameroon
CN	China
CO	Colombia
CR	Costa Rica
CS	Former Czechoslovakia
CU	Cuba
CV	Cape Verde
CX	Christmas Island
CY	Cyprus
CZ	Czech Republic
DE	Germany
DJ	Djibouti
DK	Denmark
DM	Dominica
DO	Dominican Republic
DZ	Algeria
EC	Ecuador
EE	Estonia
EG	Egypt
EH	Western Sahara
ER	Eritrea
ES	Spain
ET	Ethiopia
FI	Finland
FJ	Fiji
FK	Falkland Islands
FM	Micronesia
FO	Faroe Islands
FR	France
FX	France (European Territory)
GA	Gabon
GB	Great Britain
GD	Grenada
GE	Georgia
GF	French Guyana
GH	Ghana
GI	Gibraltar
GL	Greenland
GM	Gambia
GN	Guinea
GP	Guadeloupe (French)
GQ	Equatorial Guinea
GR	Greece
GS	S. Georgia & S. Sandwich Isls.
GT	Guatemala
GU	Guam (USA)
GW	Guinea Bissau
GY	Guyana
HK	Hong Kong
HM	Heard and McDonald Islands
HN	Honduras
HR	Croatia
HT	Haiti
HU	Hungary
ID	Indonesia
IE	Ireland
IL	Israel
IN	India
IO	British Indian Ocean Territory
IQ	Iraq
IR	Iran
IS	Iceland
IT	Italy
JM	Jamaica
JO	Jordan
JP	Japan
KE	Kenya
KG	Kyrgyzstan
KH	Cambodia6
KI	Kiribati
KM	Comoros
KN	Saint Kitts & Nevis Anguilla
KP	North Korea
KR	South Korea
KW	Kuwait
KY	Cayman Islands
KZ	Kazakhstan
LA	Laos
LB	Lebanon
LC	Saint Lucia
LI	Liechtenstein
LK	Sri Lanka
LR	Liberia
LS	Lesotho
LT	Lithuania
LU	Luxembourg
LV	Latvia
LY	Libya
MA	Morocco
MC	Monaco
MD	Moldavia
MG	Madagascar
MH	Marshall Islands
MK	Macedonia
ML	Mali
MM	Myanmar
MN	Mongolia
MO	Macau
MP	Northern Mariana Islands
MQ	Martinique (French)
MR	Mauritania
MS	Montserrat
MT	Malta
MU	Mauritius
MV	Maldives
MW	Malawi
MX	Mexico
MY	Malaysia
MZ	Mozambique
NA	Namibia
NC	New Caledonia (French)
NE	Niger
NF	Norfolk Island
NG	Nigeria
NI	Nicaragua
NL	Netherlands
NO	Norway
NP	Nepal
NR	Nauru
NU	Niue
NZ	New Zealand
OM	Oman
PA	Panama
PE	Peru
PF	Polynesia (French)
PG	Papua New Guinea
PH	Philippines
PK	Pakistan
PL	Poland
PM	Saint Pierre and Miquelon
PN	Pitcairn Island
PR	Puerto Rico
PT	Portugal
PW	Palau
PY	Paraguay
QA	Qatar
RE	Reunion (French)
RO	Romania
RU	Russian Federation
RW	Rwanda
SA	Saudi Arabia
SB	Solomon Islands
SC	Seychelles
SD	Sudan
SE	Sweden
SG	Singapore
SH	Saint Helena
SI	Slovenia
SJ	Svalbard and Jan Mayen Islands
SK	Slovak Republic
SL	Sierra Leone
SM	San Marino
SN	Senegal
SO	Somalia
SR	Suriname
ST	Saint Tome and Principe
SU	Former USSR
SV	El Salvador
SY	Syria
SZ	Swaziland
TC	Turks and Caicos Islands
TD	Chad
TF	French Southern Territories
TG	Togo
TH	Thailand
TJ	Tadjikistan
TK	Tokelau
TM	Turkmenistan
TN	Tunisia
TO	Tonga
TP	East Timor
TR	Turkey
TT	Trinidad and Tobago
TV	Tuvalu
TW	Taiwan
TZ	Tanzania
UA	Ukraine
UG	Uganda
UK	United Kingdom
UM	USA Minor Outlying Islands
US	United States
UY	Uruguay
UZ	Uzbekistan
VA	Vatican City State
VC	Saint Vincent & Grenadines
VE	Venezuela
VG	Virgin Islands (British)
VI	Virgin Islands (USA)
VN	Vietnam
VU	Vanuatu
WF	Wallis and Futuna Islands
WS	Samoa
YE	Yemen
YT	Mayotte
YU	Yugoslavia
ZA	South Africa
ZM	Zambia
ZR	Zaire
ZW	Zimbabwe

Specification

General

Power requirements	AC 200-240V, 50Hz
Power consumption	19W
Dimensions (approx.)	430 X 78.5 X 275 mm (w/h/d)
Mass (approx.)	4.0 kg
Operating temperature	5˚C to 35˚C (41˚F to 95˚F)
Operating humidity	5 % to 90 %
Timer	24 hours display type
RF Modulator	UHF 22-68 (Adjustable)

System

Laser	Semiconductor laser, wavelength 650 nm
Video Head system	Double azimuth 6 heads, helical scanning.
Signal system	PAL
Frequency response	DVD (PCM 96 kHz): 8 Hz to 44 kHz DVD (PCM 48 kHz): 8 Hz to 22 kHz CD: 8 Hz to 20 kHz
Signal-to-noise ratio	More than 100dB (ANALOG OUT connectors only)
Harmonic distortion	Less than 0.008%
Dynamic range	More than 100 dB (DVD) More than 95 dB (CD)

Inputs (VCR)

Audio	-6.0dBm, more than 10 kohms (SCART) -6.0dBm, more than 47 kohms (RCA)
Video	1.0 Vp-p, 75 ohms, unbalanced (SCART/RCA)
RF IN	PAL B/G, I/I SECAM D/K

Outputs (DVD)

VIDEO OUT	1 Vp-p 75 ohms, sync negative
COMPONENT VIDEO OUT	(Y) 1.0 V (p-p), 75 Ω, negative sync, RCA jack x 1
(PROGRESSIVE SCAN)	(Pb)/(Pr) 0.7 V (p-p), 75 Ω, RCA jack x 2
Audio output (digital audio)	0.5 V (p-p), 75 Ω, RCA jack x 1
Audio output (optical audio)	5 V (p-p), 75 Ω, Optical connector x 1
Audio output (analog audio)	2.0 Vrms (1 kHz, 0 dB), 600 Ω, RCA jack (L, R) x 1/SCART (TO TV)

Outputs (VCR/DVD)

Audio	-6.0dBm, less than 1 kohms (SCART)
Video	1.0Vp-p, 75 ohms, unbalanced (SCART)

Outputs (DVD)

S-VIDEO OUT	(Y) 1.0 Vp-p 75 ohms, negative sync., Mini Din 4-pin x 1 (Y) 0.3 Vp-p 75 ohms

Accessories:

RF 75-ohm Coaxial Cable x 1, Remote control x 1, Batteries (R03/AAA) x 2

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TOSHIBA

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